

AFIT/GCM/LAS/97S-6

THE EFFECTS OF THE NEW COMMERCIAL  
MARKETPLACE EMPHASIS ON UNITED STATES  
AIR FORCE CONTRACT NEGOTIATORS

THESIS

Bryan J. Hudgens, Captain, USAF

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THESIS

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*Abstract*

Acquisition Reform is changing the way the government contracts for needed goods and services. The commercial marketplace is becoming a significant source not only of goods and services, but also of ideas as to how the government can improve its contracting and acquisition functions. This research investigates the impact of this change of focus (to the commercial marketplace) on the GS-1102 series government contract negotiator.

This thesis examines whether two theories—boundary spanning and supply management—can help understand the changing the role of the government contract negotiator. This research effort also reviews a list of commercial practices recommended by experts as practices government contract negotiators should adopt. This study investigates whether the theories and expert-recommended activities are consistent with each other and with the current duties of the government contract negotiator.

Results are tentative, as befits a preliminary research effort. Nevertheless, both the theories and the expert-recommended activities initially appear consistent with each other and with the current job responsibilities of the government negotiator. This apparent consistency suggests the theories could be helpful in understanding the changes taking place in the job of the government contract negotiator.

# THE EFFECTS OF THE NEW COMMERCIAL MARKETPLACE EMPHASIS ON UNITED STATES AIR FORCE CONTRACT NEGOTIATORS

## *I. Introduction*

In the years since the end of the Cold War, the so-called peace dividend (Druyan, 1995:viii)—the anticipated savings that could arise from downsizing the United States Department of Defense (DoD)—has become almost a cliché. The DoD budget is the largest discretionary component in the United States budget (Office of Management and Budget), so it would not be surprising if the search for a peace dividend would become a priority in the budget process. Proposals to cut the DoD budget, and thus to materialize the peace dividend have come from many corners and have covered many topics. One of the most promising alternatives, in terms of potential savings, is to revise the way DoD acquires its goods and services. This so-called acquisition reform—another common buzzword in the federal government—would revise not just the DoD's but the entire federal government's procurement system. The proposed studies into possible cost savings from acquisition reform report different numbers; the GAO, for instance, reports the government pays an eighteen to nineteen percent premium because of the specialized requirements inherent in the Federal acquisition process (GAO, 1995:1).

Acquisition reform is the catch-all phrase for numerous initiatives proposed or underway to reduce the government's cost of doing its acquisition business. One component

of acquisition reform is a move toward using commercial practices rather than specialized government-mandated practices to acquire goods and services. An important aspect of the move toward commercial practices was to change the definition of commercial goods so that the government can use radically simplified procedures to acquire a significantly greater portion of its goods and services. The common bond between these two efforts, and among many others, is that all agencies and departments in the government must learn much more about the commercial business world. The government must learn how commercial businesses acquire the goods they need, to adopt any commercial practices better, faster, or cheaper than current government practices. The government must also learn more about how commercial businesses price and market goods, to be a smarter consumer of those goods in the absence of some of the tools and protections it has relied on. Finally, it must learn both areas quickly.

As a department within the DoD, the United States Air Force (USAF) is heavily involved in acquisition reform. This research study, sponsored by the Air Force Chair at the Defense Systems Management College, is directed toward learning how this new focus on the commercial marketplace has impacted the personnel who contract for the goods and services the Air Force needs to fulfill its mission.

### **Problem Statement**

Entire categories of goods and services now are or soon could be categorized as commercial, and therefore could be procured using simpler contracting practices. To procure the goods and services it needs to accomplish its mission, the government must learn

to deal with civilian contractors on their terms. In the DoD in general, and the USAF specifically, contracting personnel provide an ideal vehicle through which the USAF can answer its questions about the commercial market place. This learning will need to take two forms. First, as already mentioned, the government must learn how to operate in a purely commercial marketplace, without the protections it has enjoyed in the past. Second, it must use the commercial marketplace as a source of ideas which it can apply to acquire these goods and services—in the vernacular of acquisition reform—better, faster, and cheaper.

This exploratory research examines contracting at Wright-Patterson Air Force Base, OH. This case presents the opportunity to examine how—or even whether—various theories are applied to the job of the government contract negotiator, in the context of one of the major acquisition centers in the USAF, the DoD, and indeed, the entire federal government. An exploratory case study approach will be useful because no research has been done in the areas covered by this study. Therefore, as discussed in Chapter III, this study presents a cost-effective way to gain some insights before committing significant resources to further studies.

The results of this study will be, of necessity, tentative. They should provide an initial understanding of whether any of several theories investigated here would be useful in understanding how the new emphasis on the commercial marketplace is impacting government contract negotiators. The results should also determine avenues for future research aimed at more definitive findings.

## **Research Questions**

The exploratory research of this study centered around four research questions. The development of the entire research question hierarchy is detailed in Chapter III, but a synopsis of the research questions themselves, and the general avenues via which they will be investigated, is outlined here:

1. “Are the commercial practices recommended by senior DoD officials and government contracting experts consistent with state-of-the-art commercial purchasing theory?” This question will be analyzed by comparing a list of those recommended activities against a list of activities consistent with the latest evolution in commercial purchasing theory—strategic supply management.
2. “To what extent do the desired commercial practices, whether expert recommended or state-of-the-art commercial purchasing theory, reflect purchasing’s role as a boundary spanning function?” This question will be analyzed by comparing the lists of both expert-recommended activities and strategic supply management activities with the theoretical model of boundary spanning dimensions.
3. “Does the Air Force formally encourage its contracting personnel to adopt commercial practices (whether in the form of the expert-recommended activities or the theory of strategic supply management) and perform boundary spanning behavior?” This question will be analyzed by comparing the position description for a GS-12 level 1102 series government contract negotiator with the lists of both expert-recommended activities and

strategic supply management activities and with the dimensions of boundary spanning activity.

4. "How important is scanning to the role of the government contract negotiator?"

This question will be analyzed by compiling data from the other three research questions and drawing conclusions based on the results of the analysis done for those other research questions.

### **Summary**

Acquisition reform is changing the way the entire federal government acquires the goods and services it needs to perform its mission. In the Departments of Defense and the Air Force, acquisition reform is a principal tool by which these organizations, it is hoped, can become better stewards of the taxpayer dollar. The emerging emphasis on the commercial marketplace as a source both of supplies and services and of ideas as to how to do the contracting function better has the potential to change the job of the government contract negotiator.

This research study proposes to examine how this emphasis on the commercial marketplace is changing the job of the government contract negotiator. It will examine several theories that initially appear useful toward understanding these changes, to determine tentatively their utility. In doing so, this research should lay the groundwork for future research into how to help government contract negotiators adapt to the changing nature of their jobs.

## *II. Literature Review*

This literature review forms the foundation for the research effort. It presents the background material necessary to understand the problem being investigated, and it outlines several theories—strategic supply management, boundary spanning and organizational learning, reward theory, and expectancy theory—which help illuminate the problem.

### **Chapter Overview**

This chapter is divided into several sections. First, it reviews the acquisition reform initiatives of the Departments of Defense (DoD) and the Air Force (USAF), and outlines the argument that changes are needed in the DoD acquisition system. Second, it presents an overview of acquisition reform's impact on the government contracting career field, and presents the argument that the contracting field must adapt to a new way of doing business if it is to survive acquisition reform. Third, because government contracting personnel are being encouraged to become more like their commercial counterparts, the literature review provides a brief history of the commercial purchasing function culminating in an explanation of strategic supply management, the state-of-the-art in commercial purchasing. Fourth, the literature review explains the concept of boundary spanning, a method by which organizations learn about their environment. Fifth, it explains boundary spanning in relation to organizational learning. Finally, the literature review concludes with a presentation of two theories of human motivation, which serve as the basis for the analytic methods employed in the study.

## **The Need for Change in the DoD Acquisition System**

The federal government is changing the way it does business. This change, called acquisition reform, is especially important to the DoD, because the end of the Cold War brought an expectation of a so-called peace dividend (Druyan, 1995:viii), the anticipated savings that could arise from downsizing the DoD in the face of the apparently diminished threat brought about by the disintegration of the Soviet Union and its allies. Then-Secretary of Defense William Perry makes the case for acquisition reform in terms of the changing world: “the threats are changing and unpredictable; by Fiscal Year (FY) 1997 defense spending will have declined in real terms by over 40% from FY85; and advanced technology is increasingly available to the world” (Perry, 1994:1).

The DoD responded to these changes with a Bottom-Up Review, which Perry calls the blueprint for meeting these changing circumstances. He argues that acquisition reform is necessary because

[i]n today's environment the current process will not always be able to meet the Department's [DoD's] need. DoD will not be able to carry out this blueprint, without dramatic changes in its acquisition processes—from determining what the Department needs, to logistics support and reutilization requirements. (Perry, 1994:1)

As the Secretary of Defense at the start of acquisition reform, Perry's opinions carried great weight. The Secretary of Defense is

the principal defense policy advisor to the President and is responsible for the formulation of general defense policy and policy related to all matters of direct concern to the DoD, and for the execution of approved polity. Under the direction of the President, *the Secretary exercises authority, direction, and control over the Department of Defense.* (DefenseLINK, 1997) [Emphasis added]

One of the areas over which the Secretary of Defense exercises control is the acquisition process for the DoD. The Under Secretary of Defense for Acquisition and Technology reports to the Secretary of Defense, and the Deputy Under Secretary of Defense (Acquisition Reform) reports to the Under Secretary of Defense for Acquisition and Technology (DefenseLINK, 1997). Therefore, the office responsible for acquisition reform is only two reporting levels below the Secretary of Defense.

Generally problems with DoD's acquisition process include a development cycle that is at least twice as long for the DoD as for commercial companies, DoD's secession of leadership in technology development to commercial industry, the declining share of sales that DoD represents to many companies, and barriers—such as socioeconomic requirements, cost accounting requirements, oversight requirements, unstable funding, and rights in technical data—that companies perceive to doing business with the DoD (Perry, 1994:3-4). These problems have significant impacts. For example, because the DoD no longer represents a significant share of many companies' sales, these companies find the cost of complying with the DoD's additional requirements to be prohibitive (Perry, 1994:4). Perry cites the semiconductor industry, where, over a thirty-year period from 1965 to 1995, the DoD's share of the total United States industry sales fell from seventy-five percent to approximately one percent (Perry, 1994:4).

Perry's memorandum includes several specific examples of problems which acquisition reform intends to fix, two of which are:

1) A company refused to sell commercial radios to DoD because the company did not want to undertake the expense of setting up an accounting system that complied with DoD's requirements. The radios DoD needed did not meet the qualifications for an exemption as a commercial product, so DoD could not buy from the company without such an accounting system being in place and was forced to buy older model radios in place of the state-of-the-art commercial versions (Perry, 1994:1).

2) Because a commercial company refused to alter its long-term subcontract relationships to comply with DoD's socioeconomic requirements, DoD paid an extra \$0.52 per unit for aspirin (Perry, 1994:1-2).

The problem, according to Perry, is not just that the DoD cannot get the goods and services it needs; DoD also pays too much for what it does get. As reported by Perry, in 1992, the Carnegie Commission on Science, Technology and government estimated that the DoD's management and control costs accounted for forty percent of the acquisition budget, and the figure for a typical commercial company was only five to fifteen percent (Perry, 1994:5). Different studies reach different conclusions as to the premium the DoD pays for its goods, but the consensus is that the DoD does pay a premium. The GAO, for instance, reports the government pays an eighteen to nineteen percent premium because of the specialized requirements inherent in the Federal acquisition process (GAO, 1995:1). Perry notes that the Center for Strategic and International Studies (CSIS) concluded the premium was closer to thirty percent over identical items sold on the commercial market (Perry, 1994:5). Furthermore, since FY85, DoD's procurement budget (as opposed to total defense spending, which was referred to earlier) has declined over sixty percent in real terms (Perry,

1994:4). From these figures, Perry draws the conclusion that the "...DoD and the Nation can no longer afford the luxury of maintaining a totally unique defense industrial base" (Perry, 1994:4).

Perry cites the Center for Strategic and International Studies, which summarized many of the problems with the DoD's acquisition system by stating that it:

[R]esults in higher prices to DoD (even when lower-cost commercial alternatives exist for the same requirements), loss of a broad domestic production base that could be available to defense for peacetime and surge demands, and lack of access to commercial state-of-the-art technologies. (Perry, 1994:2)

Based on his assessment that the DoD acquisition system needed fixing, Perry proposed two major areas of reforms for the DoD's acquisition process (Perry, 1994:2-3):

To meet the new National security challenges (political, economic, and military) DoD must—

- Maintain its technological superiority, and a strong, globally competitive National industrial base that can support the Nation's future defense needs by being able to:
  - Rapidly purchase commercial and other state-of-the-art products and technology from reliable suppliers who utilize the latest manufacturing and management techniques;
  - Assist in the conversion of defense-unique companies to dual-use production;
  - Aid in the transfer of military technology to the commercial sector; and,
  - Preserve defense-unique core capabilities.
- Reduce acquisition costs (including DoD's overhead costs) through:
  - The adoption by DoD of business processes characteristic of world-class customers and suppliers (including processes that encourage DoD's suppliers to do the same); and,
  - Relief from the requirement to impose government-unique terms and conditions on its contractors to the maximum extent practicable. (Perry, 1994:2-3)

This research study focuses on the impact of these two areas on the government contracting workforce. Specifically, government contracting personnel will need to learn

about and understand the purely commercial marketplace, and will have to learn new, world-class business practices to deal with the suppliers in this market.

### **The Need for Change in the Government Contracting Career Field**

The need for change in the government contracting career field, designated the 1102 series, starts with the basic need for acquisition reform. Secretary of Defense Perry's memorandum defended the need to reduce the DoD's acquisition workforce (which includes the contracting workforce) by stating that the DoD "...must reduce the cost of the acquisition process by the elimination of activities that, although being performed by many dedicated and hardworking personnel, are not necessary or cost effective in today's environment" (Perry, 1994:8). Secretary Perry's statement was targeted neither directly nor exclusively at the 1102 contracting series personnel; nevertheless, it sounded the alarm that personnel reductions would be a part of acquisition reform, and that personnel performing non-value-added tasks would bear the brunt of those reductions.

The USAF chose as a means to implement the DoD Acquisition Reform several so-called Lightning Bolt initiatives, which the Assistant Secretary of the Air Force for Acquisition (SAF/AQ), issued in 1995 (Druyan, 1995:v). Because SAF/AQ is "...responsible for the overall supervision of the Air Force acquisition system" (Air Force Acquisition Homepage, 1997), these Lightning Bolt initiatives provided the impetus and direction for Air Force acquisition reform. Lightning Bolt #3, *Tenets to Assist the System Program Director Achieve Efficiencies in Operations and Reductions in Manpower*, set targets for the maximum personnel assigned to a USAF system program office (SPO): "... 140 people in

large development SPOs and 50 people in large production SPOs" (Druyan, 1995:v) and specified that these targets applied "...to the total workforce available to the SPD [System Program Director] including organic and support contractor resources" (Druyan, 1995:v). While the 1102 series contracting career field was identified as an "inherently government function to be performed by the SPO" (Druyan, 1995:vi), it was not spared from the focus on personnel reductions. One of the tenets suggested for successfully downsizing the program office was to "...[m]inimize the number of contracts and use a simplified contract structure based on as few contract line item numbers (CLINs) as possible" (Druyan, 1995:9). The goal of this tenet was contracts that would be "...limited and less complicated, and thus require fewer people to manage" (Druyan, 1995:10). This Lightning Bolt initiative seemed to imply that any reductions in the contracting workforce would be proportional to the reduced workload of administering fewer and less complicated contracts; however, other senior government officials were intimating more serious reductions might be necessary.

According to Office of Federal Procurement Policy Administrator Steven Kelman, in an October 1996 interview reported by the National Contract Management Association (NCMA), "[t]here is an increasing realization of among procurement executives within the federal government that the very future of the 1102 series is at stake and threatened by downsizing" (Kelman, 1996). Kelman asserts that, if 1102s are to "survive and prosper in an era of downsizing and radical acquisition reform" (Kelman, 1996), they must "adopt the techniques of their counterparts in the commercial sector" (Kelman, 1996). Kelman is not alone in his opinion; in fact, he bases his assertions on discussions with other senior

procurement officials (Kelman, 1996). According to Kelman, those outside the contracting career field view contracting as "...regulators and as experts only on the Federal Acquisition Regulation" (Kelman, 1996), an expertise that is "...not perceived as sufficient justification for existence in the current downsizing atmosphere" (Kelman, 1996).

Further support for this view comes from outside the government. In a speech reported in *Contract Management* magazine, Dr. Ralph C. Nash, professor of Government Contracts at George Washington University and eminent expert in the government contracts field, addressed both the threat and the opportunity that the shift to a commercial focus presents to government contracting personnel:

To survive in the new world, a contracting professional must add value to the process other than a detailed knowledge of fixed rules. We must stop perceiving ourselves as a policeman and acquire three critical skills: extensive knowledge of the market, excellent insight into and knowledge of all acquisition strategies, and excellent business judgment. (Nash, 1997)

What then can the contracting profession do to adapt to the new commercial emphasis, add value to the DoD acquisition process, and thus justify its existence as a career field? Kelman believes contracting professionals "...need to embrace the practices of their commercial counterparts (i.e., purchasing managers), who justify their existence by their ability to get the best deals for their companies" (Kelman, 1996). Additionally, Kelman believes that

[g]overnment contracts professionals can add value to their profession by becoming experts in market research techniques, teaming with requirements experts to produce statements of work and specifications and advocating in those teams performance-based statements of work, and maximizing use of commercial items. (Kelman, 1996)

For DoD contracting personnel, the marching orders seem clear. In the words of Steven Kelman, those orders are to "adopt the techniques of their counterparts in the commercial sector" (Kelman, 1996). To adopt commercial purchasing techniques and practices, DoD contracting personnel must know what those techniques and practices are. Would it be sufficient to combine the recommendations of the aforementioned senior acquisition officials and experts? To suggest an answer, the next section of the literature review outlines the development of the commercial purchasing function, culminating in a description of the current state-of-the-art, strategic supply management.

### **The Evolution of the Commercial Purchasing Function**

High-level government acquisition officials and experts are encouraging government contracting personnel to become more like their commercial counterparts. A very brief survey of the development of the commercial purchasing profession is helpful in defining this target at which government contracting personnel have been told to aim.

**Commercial Purchasing: The Past.** The commercial purchasing function can trace its origins centuries back in time, and coincidentally, to the then-equivalent of the defense industry:

The function of purchasing existed before the beginning of recorded history. The activities of buying and selling were commonly conducted between individuals, often in the form of bartering. Large-scale coordinated procurement started when it became necessary to equip and train the armies of princes or kingdoms with weapons and provisions. (Harding and Harding, 1991:v)

From these earliest days, the evolution of the purchasing function has, as the saying goes, followed the money.

As recently as the start of the Industrial Revolution, approximately the early 1800s, the cost of purchased materials were, on a per item manufactured basis, less than twenty percent of the total cost to manufacture that item (Harding and Harding, 1991:v). Because this percentage was small, and because company owners perceived negotiations to add to their personal prestige, these owners handled the purchasing function themselves (Harding and Harding, 1991:v; Moore, 1967:99-101). Owners generally handled the purchasing function until the start of the twentieth century, when companies began to grow sufficiently large that delegating purchasing to a dedicated department began to outweigh the risks the owner faced in losing both control of his money and the prestige that came from negotiating purchases (Moore, 1967:99-101; Harding and Harding, 1991:v). Understanding the owner's own money was at stake, and the general belief that "anyone can buy" (Harding and Harding, 1991:vi), helps make clear why purchasing was one of the last functions the owner typically delegated (Harding and Harding, 1991:v).

Once purchasing became a separate function, in early industrial organizations, it was not even considered an internal function; rather, purchasing was a unique function that straddled the middle ground between the company and its suppliers (Moore, 1967:99-101). Moore observes that the generic title for purchasing personnel, purchasing agent, was a literal description of the job, with the term agent denoting a representative relationship between the purchasing personnel and the company—almost a distinction between the two—and the term purchasing denoting the buying of goods and services. He continues that the purchasing agent was almost a separate organization into which the company provided the precise what, how much, and when information purchasing needed to make a purchase; purchasing merely

implemented the steps and paperwork necessary to buy the specified goods or service (Moore, 1967:99-101).

Purchasing changed very little during the 1940s and 1950s, largely because of severe material shortages during World War II and the Korean conflict, and the consumer euphoria that existed between the two, all of which made costs largely irrelevant to a company; getting materials—almost at any price—was purchasing's operative measure of success (Moore, 1967:99-101). In the late 1950s and early 1960s, however, a recession struck many industries, and cost of goods again became a factor for the first time since well before World War II (Moore, 1967:99-101). By this time, material costs had grown to, on average, fifty percent of total manufacturing costs, so business owners turned to reducing material costs as a means of increasing profits (Moore, 1967:99-101; McMillan, 1959:15). This new interest in reducing costs of materials led business owners to bring purchasing away from its former position on the periphery of the company and firmly into the company's internal organization (Moore, 1967:99-101). From this point on, the purchasing department became more a manager of outside business relationships, rather than merely a source locator, as it was during the 1940s and 1950s, or an agent, as it was before that (Moore, 1967:99-101).

Material costs are now an average of sixty percent of total manufacturing costs, and in some industries, like the electronics and petroleum industries, material cost is between eighty and ninety percent of total manufacturing cost (Dobler and Burt, 1996:26; Harding and Harding, 1991:vi). Retail companies generally devote a larger percentage and service companies and government agencies generally devote a smaller percentage of cash

expenditures to purchasing (McMillan, 1959:15). In all these industries, as the cost of purchased material has continued to increase, purchasing has begun a transition into a new role as strategic supply management.

**Commercial Purchasing: The State of the Art.** Dobler and Burt define supply management as

[a] process responsible for the development and management of a firm's total supply system—both the internal and the external components. At an operational level, it includes and expands the activities of the purchasing function and the procurement process. Its major focus, however, is strategic. (Dobler and Burt, 1996:36)

Burt and Doyle have identified four stages of purchasing and supply management development, and classified the four stages in a hierarchy, which reads from least-evolved to most-evolved: reactive, mechanical, proactive, and strategic supply management (Dobler and Burt, 1996:6). According to Dobler and Burt, a well-developed strategic supply management system represents “world class” status, “the most advanced stage in the evolutionary development of the purchasing/procurement/supply” function (Dobler and Burt, 1996:10, 36). They list several activities representative of a strategic supply management system, including:

- 1) Early purchasing involvement (EPI) and early supplier involvement (ESI) in product design and subsequent specification development for important items, typically through the use of cross-functional teams.
- 2) *Conduct of all purchasing and procurement process activities.* [Emphasis in original. This item refers to basic functions such as sourcing, negotiation, contract administration, and basic market studies.]
- 3) Heavy use of cross-functional teams in supplier qualification and selection.
- 4) Heavy use of purchasing partnering arrangements and strategic alliances with suppliers—to develop close and mutually beneficial linkages with key suppliers in the value chain and to control quality and costs.
- 5) Continuous identification of threats and opportunities in a firm's supply

environment.

- 6) Development of strategic, long-term acquisition plans for all major materials.
- 7) The monitoring of continuous improvement in the supply chain.
- 8) Active participation in the corporate strategic planning process. (Dobler and Burt, 1996:35-36).

Although the point will be explored in more detail in the research methodology and analysis chapters, it appears safe to draw attention to certain key aspects of the theory of strategic supply management. Purchasing historically has dealt with suppliers of goods and services the organization needs to carry out its purpose. Strategic supply management expands the focus to organizations external to purchasing. We have seen that government contracting personnel are being encouraged to become more like commercial purchasing managers. Strategic supply management represents the state-of-the-art for commercial purchasing. Its activities, listed above, emphasize the special relationship between purchasing and other organizations, both internal and external to purchasing's parent organization. The senior government officials and academics, who recommend government contracting personnel become more commercial, also seek to tap into this relationship between purchasing and other organizations. The emphases on teaming to generate requirements, market-knowledge, and commercial solutions, for example, all force government contracting personnel to become involved in activities such as EPI/ESI, teaming to qualify suppliers, threat/opportunity identification, and monitoring of quality in the supply chain. Commercial purchasing, at least in world-class organizations, is no longer the isolated, clerical, agent of the company. It is now deeply involved with other organizations external to its own organization and other offices within its own organization.

This literature review has outlined the argument that government contracting personnel need to become more like commercial purchasing managers, and has presented several of the specific recommendations, in terms of techniques and practices, how it should approach this transition. It has identified the theory of strategic supply management as the state of the art for commercial purchasing, and as a possible explanatory theory for the techniques and practices being recommended to government contract negotiators. The next section of the literature review presents the theory of boundary spanning, which provides a way to understand the evolving role of government contracting personnel in terms of the relationships they have with organizations outside the government and offices within the government.

### **Boundary Spanning**

Government contracting personnel are being urged to become more like commercial purchasing managers, for which the state-of-the-art is strategic supply management. Many of the specific activities which commercial purchasing—or strategic supply management—perform, and which government contracting personnel are being asked to perform, involve boundary spanning. These recommended activities for government contracting personnel, as outlined in previous sections, include developing expertise in market research, becoming experts in the market, and maximizing the use of commercial items vice DoD-specific or new development items. A common denominator for these items, and for all boundary spanning activities, is that they require the personnel performing the activities to deal extensively with their organization's external environment.

One simple, but useful, dichotomous classification of organizational environments is as external, “everything outside an organization that might affect it,” (Griffin, 1996:70) and internal environments, “conditions and forces within the organization” (Griffin, 1996:70). One of the ways organizations can learn about and adapt to their respective environments is applying any (or all) of several information management techniques (Griffin, 1996:86). One such technique is to exploit what are called boundary spanners. A boundary spanner is “an employee, such as a sales representative or a purchasing agent, who spends much of her time in contact with others outside the organization” (Griffin, 1996:86). [Emphasis added] Such personnel are, asserts Griffin, “in a good position to learn what other organizations are doing” (Griffin, 1996:86).

From a study of new product development teams, Ancona and Caldwell identified four dimensions of boundary spanning activity (Ancona and Caldwell, 1990:119-135). The first dimension is ambassadorial activities, which include such activities as managing threats from within the organization, deflecting pressure or buffering the group, and progress reporting. The second dimension is task coordination and negotiation with external groups. The third dimension is scouting, which is essentially environmental scanning—looking outside the organization for innovations. The final dimension is guard activities, which is preventing the unwanted compromise of internal information (Ancona and Caldwell, 1990:119-135). Ancona and Caldwell found that team leaders emphasized ambassador and coordination activities, (Ancona and Caldwell, 1990:119-135) which is consistent with the DoD acquisition process, where these activities—especially ambassador activities—are

primarily performed by the program management staff. Task coordination activities can well be performed by functions other than program management. Scouting and guard activities, however, can be performed by anyone who engages the external environment—dealing with, for example, contractors, potential contractors, or higher headquarters. While Ancona and Caldwell developed their classification scheme during a study of new product development teams, it is nevertheless useful in understanding boundary spanning in general.

This study seeks to understand to what extent government contracting personnel perform boundary spanning activities, and to what extent the suggested commercial practices represent boundary spanning activities.

### **Boundary Spanning and Organizational Learning**

Boundary spanning is a method of organizational learning, which in turn is “...the capacity or processes within an organization to maintain or improve performance based on experience” (Nevis, et. al.:2). All organizations learn, but not all learning is productive—some organizations are hindered by “learning disabilities” (Nevis, et. al.:2). One distinction in organizational learning is whether it is corrective learning or generative learning. Corrective learning is adaptive learning, the learning that brings about incremental improvements and quick “fixes” to problems (Nevis, et. al.:2). Generative learning is the learning required to make “transformational changes—changes in basic assumptions” (Nevis, et. al.:2); it is the learning of paradigm shifts. Both generative and corrective learning are important; in fact, corrective learning can be just what an organization needs to internalize the paradigm shifts from generative learning (Nevis, et. al.:2). While

acknowledging Senge's argument that corrective learning is more prevalent today (Nevis, et al.:2), Nevis, et. al., suggest that generative learning is what "...organizations need in today's fast-moving, often chaotic environment" (Nevis, et. al.:2). Generative learning appears to more correctly characterize the shift DoD will experience as it learns and begins to apply commercial purchasing practices.

A model developed by Nevis, et. al., describes organizational learning in terms of learning orientations, which are the "values and practices that reflect where learning takes place and the nature of what is learned" (Nevis, et. al.:5), and facilitating factors, which are "the structures and processes that reflect how easy or hard it is for learning to occur and the amount of effective learning that takes place" (Nevis, et. al.:5).

The model consists of seven learning orientations and ten facilitating factors. Nevis et., al., provide an excellent summary of their model, which is reproduced verbatim here (Nevis, et. al.:6-7). [All formatting, such as bold type and quotations, is in the original]

Table 1. Organizational Learning Model Summary

<b>Seven Learning Orientations</b>	<b>Ten Facilitating Factors</b>
<b>1. Knowledge Source: Internal—External.</b> Preference for developing knowledge internally versus preference for acquiring knowledge developed externally.	<b>1. Scanning Imperative.</b> Information gathering about conditions and practices outside the unit; awareness of the environment; curiosity about the external environment in contrast to the internal environment.
<b>2. Product—Process Focus: What?—How?</b> Emphasis on accumulation of knowledge about what products/services are versus how organization develops, makes, and delivers its products/services.	<b>2. Performance Gap.</b> Shared perception of a gap between actual and desired state of performance; performance shortfalls seen as opportunities for learning.

**3. Documentation Mode: Personal—Public.** Knowledge is something individuals possess versus publicly available know-how.

**4. Dissemination Mode: Formal—Informal.** Formal, prescribed, organization-wide methods of sharing learning versus informal methods, such as role modeling and casual daily interaction.

**5. Learning Focus: Incremental—Transformative.** Incremental or corrective learning versus transformative or radical learning.

**6. Value-Chain Focus: Design—Deliver.** Emphasis is on learning investments in engineering/production activities (“design and make” functions) versus sales/service activities (“market and deliver” functions).

**7. Skill Development Focus: Individual—Group.** Development of individuals’ skills versus team or group skills.

**3. Concern for Measurement.** Considerable effort spent on defining and measuring key factors when venturing into new areas; striving for specific, quantifiable measures; discussion of metrics as a learning activity.

**4. Experimental Mind-set.** Support for trying new things: curiosity about how things work; ability to “play” with things; “failures” are accepted, not punished; changes in work processes, policies, and structures are a continuous series of learning opportunities.

**5. Climate of Openness.** Accessibility of information; open communications within the organization; problems/errors/lessons are shared, not hidden; debate and conflict are acceptable ways to solve problems.

**6. Continuous Education.** Ongoing commitment to education at all levels of the organization; clear support for all members’ growth and development.

**7. Operational Variety.** Variety of methods, procedures, and systems; appreciation of diversity; pluralistic rather than singular definition of valued competencies.

**8. Multiple Advocates.** New ideas and methods advanced by employees at all levels; more than one champion.

**9. Involved Leadership.** Leaders articulate vision, are engaged in its implementation; frequently interact with members; become actively involved in educational programs.

**10. Systems Perspective.** Interdependence of organizational units; problems and solutions seen in terms of systemic relationships among processes; connection between the unit's needs and goals and the company's.

This study considers two of the learning orientations: knowledge source and value-chain focus, and one of the facilitating factors: scanning imperative. The new focus on the commercial market represents a change from an internal to an external source of knowledge. The goal is to learn contracting techniques and methods from the commercial marketplace, rather than solely to invent new ones exclusively within the DoD.

Scanning imperative is an important factor not just in organizational learning, but in the broader area of organizational success. Nevis, et. al., echo other researchers when they say “the absence of solid, ongoing external scanning in other organizations is an important factor in their economic difficulties” (Nevis, et. al.:5, 10). Clearly, the DoD is not a for-profit organization, but it must spend its declining procurement budget wisely to get, so to speak, the most bang-for-the-buck. Scanning would therefore seem important to the DoD as well.

An organization's value chain can be a source of learning. Nevis, et. al., suggest that an organization can “think of the work in each major step [of the value chain], beginning with strategic decisions through to customer service, as a subsystem for learning experiments” (Nevis, et. al.:2). An organization's value chain is “a series of organizations extending all the way back to firms which extract materials from mother earth, perform a series of value-adding activities, and fabricate the finished good or service purchased by the

ultimate customer" (Dobler and Burt, 1996:13). The organization's supply chain is "the upstream portion of the organization's value chain, and is responsible for ensuring that the right materials, services, and technology are purchased from the right source, at the right time, in the right quality" (Dobler and Burt, 1996:13). The supply chain, then, is the province of the purchasing function, so purchasing is in a position to play a key role in an organization's learning process.

Mark Shepherd, former president of Texas Instruments, understands the potential of learning from the supply chain through the purchasing function. He represented a general attitude among corporate chief executives (Heinritz, et. al, 1986:7) in stating, "[w]e expect our purchasing departments, because they are in the position to be so well informed, to be a source of innovations in their own operations and for the other operations within the company" (Heinritz, et. al., 1986:7). Government contracting personnel, as the purchasing subject matter experts for the government, would seem both a logical and a practical means through which to learn the commercial techniques and practices they are encouraged to adopt.

### Theories of Motivation

The many experts who argue contracting personnel must change how they do business—focusing more on commercial practices and understanding the marketplace, rather than being expert at government regulations and policies—argue that contracting personnel have become so-called police officers. As such, the argument goes, these contracting technicians merely administer the government's purportedly labyrinthian rules, while giving

no thought to the impacts they have on timely and cost-effective acquisition of necessary goods and services. To meet Kelman's challenge of "justifying their existence" (KELMAN, 1996), contracting personnel will be forced to find new ways to add value to the acquisition process. The remainder of this literature review presents two theories of human motivation that can provide possible explanations for contracting personnel changing—or not changing—to meet this challenge.

**Reward Theory.** The first theory of motivation, reward theory, can be summarized as follows:

Whether dealing with monkeys, rats, or human beings, it is hardly controversial to state that most organisms seek information concerning what activities are rewarded and then seek to do (or at least pretend to do) those things, often to the virtual exclusion of activities not rewarded. (Kerr, 1975:49)

The challenge for an organization seeking a certain behavior or set of behaviors, of course, is to ensure a reward system that actually rewards the desirable behavior without mistakenly rewarding undesirable behavior.

Reward systems can cause problems when they reward undesirable behavior, or when goal displacement occurs. Stephen Covey provides a clear example in the form of a common reward system in sales organizations, one that rewards behavior contrary to that which management desires (Covey, 1989:205-206). The president of a company asked for Covey's consultation in motivating increased teamwork among his senior managers. The president assured Covey that the company's reward systems rewarded cooperation—the desired behavior. During a weekly staff meeting, the president would extol the virtues of teamwork with his "weekly psyche-up speech" (Covey Audiotape). He then would pull back

a curtain on the wall behind him to reveal a depiction of a horse race. Pictures of each manager were superimposed over the heads of the horses, and at the end of the track was a picture of a beach in Bermuda. As it turned out the top performing manager would receive a vacation to Bermuda, while the others would get nothing (Covey, 1989:205-206). This example might seem obvious; however, Covey, an internationally renowned professor and consultant, submits this example is common (Covey Audiotape). It well illustrates the problem of rewarding undesired behavior. The president wanted his sales managers to work together as a team to improve the company's performance. By rewarding only the one manager who performed the best (with the trip to Bermuda), the president inadvertently created a situation where each manager had to weigh any help he gave another manager against how much providing that help would diminish his own chances of winning the trip to Bermuda (presumably a desirable prize). The result, evident by the lack of teamwork that spawned the consulting assignment in the first place, was a focus on the undesired me-first behavior with the goal of attaining the trip, rather than the desired teamwork.

Another example is in any system that runs on Management-by-Objectives (MBO), or any related management technique. MBO is the process of collaborative goal setting by a manager and subordinate; the extent to which goals are accomplished is a major factor in evaluating and rewarding the subordinate's performance (Griffin, 1996:190). In this system, these collaborative goals are as specifically quantifiable as possible, and are to be accomplished in a set time-frame (Griffin, 1996:190). The challenge with any such system is that it becomes easy to focus on verification of quantifiable objectives, because they are observable; non-quantifiable objectives are often less observable, consequently not rewarded,

and therefore ignored by the subordinates (Kerr, 1975:49-58). In such cases, organizations reward behavior in the quantifiable areas, while hoping for—but not formally rewarding—behavior in the non-quantifiable areas (Kerr, 1975:53).

Goal displacement, the other challenge to an effective reward system, occurs when the “means become ends-in-themselves that displace the original goals” (Blau and Scott, 1962:229). For example, goal displacement might arise in a production facility when, during a period of extremely rapid growth, the production focus is essentially to get the product out the door. This focus on producing and shipping large quantities of product might well come at the expense of reduced product quality, which could very well lead to a higher defect rate and increased customer returns. In this case, the original goal of making and selling high-quality products becomes supplanted by the means-goal of shipping huge quantities regardless of quality, defects, or returns.

Kerr suggests three ways to remedy the problem: better employee selection, better employee training, or better reward systems (Kerr, 1975:57). Reviews of both employee selection techniques and employee training programs both draw pessimistic conclusions as to their utility, leading Kerr to emphasize the reward system as something an organization can control and which can lead to improved employee performance (Kerr, 1975:57). While acknowledging that not “...all organizational behavior is determined by formal rewards and punishments”, he suggests organizations are not rewarding what they assume they are, and that managers should determine what behaviors are being rewarded as a diagnostic first step

toward a remedy (Kerr, 1975:57). Reward theory, then, suggests that organizations should ensure their reward systems are rewarding the behaviors actually desired.

**Expectancy Theory.** Expectancy theory, according to Griffin, is “...a complex but relatively accurate portrayal of how motivation occurs” (Griffin, 1996:484). While it might well be complex, Griffin also suggests that expectancy theory can analyze motivation in terms of two simple questions: “how much we want something and how likely we think we are to get it” (Griffin, 1996:483)?

Expectancy theory holds four basic assumptions:

Assumption 1: Behavior is determined by a combination of forces in the individual and in the environment... Assumption 2: People make decisions about their own behavior in organizations... Assumption 3: Different people have different types of needs, desires, and goals... Assumption 4: People make decisions among alternative plans of behavior based on their perceptions (expectancies) of the degree to which a given behavior will lead to the desired outcome. (Nadler and Lawler, 1977:28)

Contrast these assumptions to those basic assumptions held in common by such early, and diverse, theories of motivation such as human relations, scientific management, and job enrichment. Nadler and Lawler argue these early theories held three common assumptions (Nadler and Lawler, 1977:27-28). First, they assumed that all employees are alike. While the different theories suggest different ways of motivating the employees, they nevertheless assume the employees themselves are basically alike. Second, the theories assumed that all situations are alike, and so the manager can apply the suggested motivation approach to any situation. Finally, as a logical growth from the first two assumptions, the theories assumed that “one best way” exists to motivate employees (Nadler and Lawler, 1977:27-28).

The basic elements of expectancy theory are performance-outcome expectancy, valence, and effort-performance expectancy, which Nadler and Lawler define as follows (Nadler and Lawler, 1977:29). Performance-outcome expectancy means that, for any given behavior, an individual associates certain outcomes with that behavior. These outcomes might be desirable (rewards) or undesirable (punishments). Valences are the value or worth that the individual ascribes to each outcome associated with the behavior. Because one of the assumptions of expectancy theory is that people are different, the same outcome could have a different valence for different people. Finally, effort-performance expectancy is the association the individual makes between effort and reward; that is, the probability of a given behavior resulting in a given outcome (Nadler and Lawler, 1977:29). Expectancy theory, then, predicts an individual's motivation toward a given behavior is greatest when:

- a. The individual believes that the behavior will lead to outcomes (performance-outcome expectancy)
- b. The individual believes that these outcomes have positive value for him or her (valence)
- c. The individual believes that he or she is able to perform at the desired level (effort-performance expectancy). (Nadler and Lawler, 1977:29)

Expectancy theory's first assumption was that forces both internal and external to the individual combine to motivate behavior. Expectancy theory also asserts that expectancies about outcomes are the driving force behind motivation. These outcomes can be either external or internal to the individual (Nadler and Lawler, 1977:30). External outcomes might include a raise, formal recognition (or condemnation, depending on whether or not the outcome is desirable), or promotion (or demotion, again depending on the desirability).

Internal outcomes could include emotions such as satisfaction over a job well done or remorse over a lost opportunity.

Expectancy theory holds several implications for managers. Nadler and Lawler suggest a seven-step process managers can use to motivate employees (Nadler and Lawler, 1977:31-32). First, the manager should determine the outcomes employees value. Second, the manager should determine the behavior he or she desires. Third, the manager should ensure the desired behavior is realistically achievable by the employees. Fourth, the manager should create links between the employees' desired outcomes and the behaviors the manager desires of the employees. Fifth, the manager should inspect the environment for conflicting expectancies; that is, whether other expectancies, established by other managers, higher management levels, or even other employees, conflict with the expectancies the manager desires. Sixth, the manager should ensure the rewards (the employees' desired outcomes) are sufficiently large to motivate the employees' to achieve the behaviors the manager desires of them. Seventh, the manager should ensure the new motivation system is equitable, in that it rewards increasingly higher levels of performance with higher levels of rewards (Nadler and Lawler, 1977:31-32).

Expectancy theory also holds several implications for the entire organization. Nadler and Lawler present six of these implications (Nadler and Lawler, 1977:32-34). First, expectancy theory affects how pay and reward systems are designed. Second, it affects how tasks, jobs, and roles are designed. Third, it highlights the importance of both formal and informal groups, which can set up conflicting expectations. Fourth, it defines the supervisor's role as one of implementing the seven step process mentioned above. Fifth, it

suggests that if employees' expectancies govern their behavior, then the organization should measure the employees' perceptions as to how well the organization is meeting their expectancies. Sixth, expectancy theory suggests that, because employees are individuals with individual expectancies and valences, that organizations should consider these individual differences in designing motivation systems (Nadler and Lawler, 1977:32-34).

In summary, reward theory argues basically that we will try to determine what actions are rewarded; then, we will do those things for which we will be rewarded, and we will not do things for which we are not rewarded. Organizations must ensure that, unlike the Covey example, they are rewarding desired behaviors they desire and not, however unintentionally, behaviors they do not desire. Expectancy theory argues that our motivation can be summarized by Griffin's two questions: "how much we want something and how likely we are to get it" (Griffin, 1996:483). Organizations must ensure their reward systems appropriately link outcomes employees value sufficiently to motivate their performance (Griffin's "how much we want something" question)—raises, promotions, and so forth—with outcomes the organization values—greater productivity, for example; they must also ensure the expectancies are clear, and that no conflicting expectancies exist. Employees must believe they can, with reasonable effort, achieve the desired organizational outcome and thus the desired personal outcome (Griffin's "how likely we are to get it" question).

If government contracting personnel are to change to commercial practices, such as those represented by strategic supply management theory and boundary spanning theory,

motivation theory would suggest we need to make sure these personnel are rewarded for making these changes.

### **Research Questions**

This literature review forms the foundation for the research questions developed in Chapter III. Senior government and academic experts recommended activities that government contracting personnel should be performing to become more like their commercial counterparts. Those recommendations raise the first research question: “Are the commercial practices recommended by senior DoD officials and government contracting experts consistent with state-of-the-art commercial purchasing theory?” The theory of boundary spanning represents one way to understand the changing role of government contracting personnel, that of a source of organizational learning about the external (commercial) environment. A second research question explores the extent to which both the expert-recommended commercial practices and state-of-the-art purchasing theory agree with boundary spanning theory: “To what extent do the desired commercial practices, whether expert recommended or state-of-the-art commercial purchasing theory, reflect purchasing’s role as a boundary spanning function?” The third research question addresses the role of motivation theory, namely, “Does the Air Force formally encourage its contracting personnel to adopt commercial practices (either expert-recommended or strategic supply management, or both) and perform boundary spanning behavior?” A fourth research question grew out of the research showing the correlation between amount of environmental scanning an organization performs and that organization’s economic success. This fourth

question asks, "How important is scanning to the role of the government contract negotiator?"

## Conclusion

Contracting personnel in the DoD are faced with a changing acquisition landscape—new defense threats, reduced defense spending, increased quality and availability of commercial goods, and acquisition reform will all influence the way DoD procures the goods and services it needs to perform its mission. The DoD's contracting personnel will have to adapt to this changing landscape. Commercial purchasing theory suggests a target that DoD contracting personnel can aim for, as they attempt to follow the direction to be more like commercial purchasing managers. Boundary spanning theory, an aspect of organizational learning theory, also can offer insights to help them better understand their evolving role in the acquisition process.

Perhaps more than anything else, this study tries to develop a preliminary understanding of whether the groundwork is in place for government contracting personnel to make the desired changes. Does strategic supply management represent the commercial practices DoD contracting personnel are being told to develop? Does boundary spanning theory help explain these new competencies? And most importantly, are the expectations for developing these new competencies clearly expressed in the form of the reward system?

### *III. Methodology*

#### **Chapter Overview**

This chapter presents the research methodology applied in this study. The chapter begins with a general overview of the overall methodology, including an explanation of the reasons for using a case study approach. The chapter then outlines the research, investigative, and measurement question hierarchy, followed by the research subjects, data collection, and methods of analysis. This chapter concludes with a detailed discussion of the methods employed to enhance validity and reliability.

#### **The Overall Methodology**

This study seeks to develop a preliminary understanding of how the change to a focus on the commercial marketplace affects government contracting personnel. To do this, it addresses several aspects of this new focus. First, it analyzes whether the new activities recommended for government contracting personnel are embodied in an existing theory of commercial purchasing: strategic supply management. Second, it investigates whether the theory of boundary spanning can help government contracting personnel understand the changes that might occur from the new emphasis on the commercial marketplace, whether these changes are the specific expert-recommended practices or the more comprehensive theory of strategic supply management. Third, it examines the position description of a journeyman government contract negotiator in light of motivation theory for three specific purposes: whether the activities recommended by senior leaders and academic experts are represented in the position description; whether the activities representative of strategic

supply management are incorporated in the position description; and to what extent the standards in the position description can be classified within the four dimensions of boundary spanning theory. Fourth, it seeks to understand the extent to which scanning behaviors are important to the role of a contract negotiator, as evidenced by the contract negotiator position description. From these results, presented in Chapter IV, analysis will be performed, conclusions will be drawn, and recommendations for future research will be made in Chapter V.

The research approach chosen was qualitative. Classically, qualitative research is useful in the “early, exploratory stages of a study” (Silverman, 1993:21), and “can be used to familiarize oneself with a setting before the serious sampling and counting begins” (Silverman, 1993:21). This view of qualitative research comes from more heavily quantitative method texts, so is somewhat limited. In fact, qualitative research is hard to define, partly because “[t]here is no standard approach among qualitative researchers” (Silverman, 1993:23). To help identify when qualitative research is useful, and to help define the most appropriate methodology, Marshall and Rossman submit:

the approaches vary, depending on how intrusive the researcher is required to be in the gathering of data, whether these data document nonverbal or verbal behavior or both, whether it is appropriate to question the participants as to how they view their worlds, and how the data can be fruitfully analyzed. (Marshall and Rossman, 1989:10-11)

Yin suggests case study research is appropriate for “how”, “why”, or exploratory “what” questions (Yin, 1994:5, 9). Yin also argues for case studies when the context of the research is important (Yin, 1994:13). Context is important to this research for two reasons.

First, the subject matter experts have varying amounts of expertise and different experience backgrounds; therefore, their responses will likely be governed by these differences. Second, the research is a case study, focusing on one contracting organization in the USAF. Although an argument can be made, and is made elsewhere in this study, for limited generalizability to other contracting organizations in the DoD and the federal government, ultimately, this study's results must be understood in the context of coming from research performed on the single subject organization.

This research study is exploratory; no research has been done in this area within the DoD. The overall purpose of this research is to develop a preliminary understanding of the extent to which certain theories provide insight into how the new focus on the commercial marketplace affects government contracting personnel. From this starting point, future research could seek wider validation of the theories' applicability. As elaborated on later, and as noted previously by Marshall and Rossman, a key feature of qualitative research is the ability to question participants to better understand their perspectives, and consequently, their data inputs. This study relies on analytic induction to ensure proper understanding of the subject matter expert coding.

This study should serve as a basis for understanding, at least tentatively, how the changes occurring in government contracting are impacting the people who do the contracting every day. This study is exploratory, and is limited to the case of the USAF's largest contracting function; therefore, its results will be neither comprehensive for the DoD at large nor absolutely conclusive. The study's results will, however, provide a foundation for future research, and suggest directions for that research.

### **The Question Hierarchy: Research, Investigative, and Measurement Questions**

The question hierarchy is a formal reduction of the general question that prompts the research into progressively more specific questions. According to Cooper and Emory, the hierarchy is comprised of four levels of questions: management, research, investigative, and measurement questions, which are described below (Cooper and Emory, 1995:57). The management question is the question that prompts the research. The research questions are the first level reductions of the management question, and are the “fact-oriented, information-gathering” questions (Cooper and Emory, 1995:57). The investigative questions are reductions of each of the research questions; the researcher must answer the investigative questions for each of the research questions. Finally, the measurement questions are the actual means by which the researcher gathers the data, whether by survey, interview, or observation, with which to address the investigative questions and in turn the research questions and management question (Cooper and Emory, 1995:56-59).

The question hierarchy for this study grows out of the management question, and is influenced by the various theories of motivation. The management question for this study is, “Are 1102 series government contracting personnel adopting commercial purchasing practices, especially boundary spanning functions?” The research questions for this study flow from the management question, and represent attempts to gain the factual knowledge necessary to evaluate the extent to which government contracting personnel are adopting commercial practices and performing boundary spanning activities. The research questions are:

1. “Are the commercial practices recommended by senior DoD officials and government contracting experts consistent with state-of-the-art commercial purchasing theory?” This question will be analyzed by comparing a list of those recommended activities against a list of activities consistent with the latest evolution in commercial purchasing theory—strategic supply management.

2. “To what extent do the desired commercial practices, whether expert recommended or state-of-the-art commercial purchasing theory, reflect purchasing’s role as a boundary spanning function?” This question will be analyzed by comparing the lists of both expert-recommended activities and strategic supply management activities with the theoretical model of boundary spanning dimensions.

3. “Does the Air Force formally encourage its contracting personnel to adopt commercial practices (whether in the form of the expert-recommended activities or the theory of strategic supply management) and perform boundary spanning behavior?” This question will be analyzed by comparing the position description for a GS-12 level 1102 series government contract negotiator with the lists of both expert-recommended activities and strategic supply management activities and with the dimensions of boundary spanning activity.

4. “How important is scanning to the role of the government contract negotiator?” This question will be analyzed by compiling data from the other three research questions and drawing conclusions based on the results of the analysis done for those other research questions.

The investigative questions reduce each research question into more specific questions that are more amenable to an answer. By compiling the results of addressing the investigative questions for each respective research question, the researcher is able to suggest a possible answer to the broader research question. The researcher will use simple quantitative comparisons and frequency counts of the responses to each investigative question and will analyze the resulting data to answer the associated research question. Data for investigative question 4.a. will come from the other investigative questions, and the general pattern of analysis will be the same as that applied to the other investigative questions. The investigative questions are numbered to correspond with the research questions; for example, investigative question 1.a. is the first investigative question relating to research question number one. The investigative questions are:

1.a. How well do the commercial practices recommended by senior DoD officials and government contracting experts correspond to the activities characterizing strategic supply management?

2.a. How well do the expert-recommended activities correspond to the four dimensions of boundary spanning activity?

2.b. How well do the activities characteristic of strategic supply management correspond to the dimensions of boundary spanning activity?

3.a. How well do the commercial practices recommended by senior DoD officials and government contracting experts correspond to the standards of the contract negotiator position description?

3.b. How well do the standards of the contract negotiator position description correspond to the four dimensions of boundary spanning activity?

3.c. How well do the activities characteristic of strategic supply management correspond to the standards of the government contract negotiator position description?

4.a. How important does scanning appear to be to the role of the government contract negotiator?

## **Case Overview**

This section explains the case chosen for the research, and the rationale for using subject matter experts to gain insights into the research topic.

**Subject Case.** The research subject for the study is the group of government contract negotiators in the Contracting and Support Division, Contracting Directorate, Wright-Patterson Air Force Base, OH. This subject was chosen for two reasons. Firstly, the Contracting Directorate provides contracting support to the biggest systems acquisition organization in the USAF and to the headquarters for Air Force Materiel Command, which is responsible for all systems-level acquisition (and contracting) in the Air Force; so, this organization should provide both breadth and depth of coverage of systems-level contracting in the USAF. Secondly, the Contracting Directorate is collocated at Wright-Patterson Air Force Base with the Air Force Institute of Technology, where the researcher is a student; therefore, the Contracting Directorate provides a conveniently accessible source of data.

Contracting in the federal government is governed by a unified regulation, the *Federal Acquisition Regulation* (FAR), so contracting functions will be to some extent similar at any contracting office in the federal government. The same argument applies to contracting in the Department of Defense (DoD) and in the USAF, both of which have unified supplements to the FAR. In fact, Air Force Materiel Command, the parent organization for the contracting activity at Wright-Patterson Air Force Base, also has a unified supplement to the FAR, the DoD FAR Supplement, and the USAF FAR Supplement; so again, contracting at any organization under the control of Air Force Materiel Command would also have common contracting procedures. That said, Wright-Patterson Air Force Base, the subject organization, has a large and varied contracting mission, which ranges from cutting-edge research and development to major weapon system procurement to base support functions. Therefore, while similarities exist in how contracting is done base-wide, differences would also likely exist because of the varied missions. For example, someone working in the base support office might be more experienced dealing with huge quantities of smaller and relatively less complicated projects, while someone working on a major weapon system program would have more experience with fewer contracts, or even modifications to only one contract, having more complex issues.

These similarities and differences both affect the study. The similarities in contracting procedures across the various commands, agencies, and the federal government suggest that any conclusions drawn could have at least some generalizability beyond the instant case. The differences allow this study to gain efficient insight into different

contracting functions. They also, however, could have an impact on the study results, as discussed in the next section.

**Subject Matter Experts.** This study uses subject matter experts (SME) to assess the relevance of several theories and lists of activities to the role of government contract negotiators. As discussed later, this assessment will take the form of comparing the theories and lists of activities against each other, and against the position description of a government contract negotiator.

The SMEs represent a cross-section of government contracting personnel, both civilian and military, with experience in the subject organization. Their experience ranges between eight and twenty years government contracting experience, and between three and fifteen years experience in the subject organization. Together, they have worked in most of the different contracting areas within the subject organization. All SMEs (except the researcher) have recent experience working in the subject group, but all SMEs also have experience working in other USAF contracting organizations. All SMEs have had experience as GS-12 contract negotiators, or in an equivalent position in the case of the military SME. This difference in background and experience might be reflected in the SMEs' coding of the various activities and standards. This possibility is addressed in the section on analytic induction.

Because the purpose of this research is to develop a preliminary understanding as to whether the theories presented in the literature review would be useful to understanding the changes taking place in the government contracting arena. The SMEs provide a useful way to test the utility of the theories for two reasons. First, because they all have recent

experience in the subject organization, the SMEs offer insights into how the changes are impacting the people doing the actual contracting work. Second, because they all have many years of experience in government contracting, they also offer an understanding of the duties and responsibilities inherent in the role of government contract negotiator. These two benefits combine to provide an efficient way to meet the purpose of the research.

### **Data Collection**

Data will be collected for each investigative question from several sources: research theory, government contract offices, and subject matter experts. Several subject matter experts (SMEs) will be given instructions and the lists of theoretical activities and position description duties and standards. After compiling the data and making some tentative observations, the researcher will conduct follow-up interviews with all SMEs to better understand the coding results they provided. This section explains the data collection method for each investigative question.

Investigative question 1.a. asks, "How well do the commercial practices recommended by senior DoD officials and government contracting experts correspond to the activities characterizing strategic supply management?" The recommended commercial practices was gathered from published interviews with senior DoD officials and academic experts, and the activities characteristic of strategic supply management was obtained from academic literature. The SMEs will provide the data for this question. Each SME will compare the two lists of activities against each other to match each strategic supply management (SSM) activity against the expert-recommended activity they think the (SSM)

activity best characterizes. A *none* code, signifying that none of the expert-recommended activities applies, will be a valid coding option. The data will be, for each SME, a list of SSM activities with an associated coded response representing the expert-recommended commercial practice that each SME believes best characterizes each specific SSM activity.

Investigative question 2.a. asks, “How well do the expert-recommended activities correspond to the four dimensions of boundary spanning activity?” The list of expert-recommended activities is the same list from investigative question 1.a., and the dimensions of boundary spanning activity were obtained from the academic literature on boundary spanning theory. The SMEs will also provide the data for this question. Each SME will match each expert-recommended activity against the dimension of boundary spanning theory which they believe best explains that expert-recommended activity. A *none* code, signifying that none of the boundary spanning theories is applicable, will be a valid coding option. The data will be, for each SME, a list of expert-recommended commercial practices with an associated coded response representing the boundary spanning dimension that each SME believes best characterizes each specific commercial practice.

Investigative question 2.b. asks, “How well do the activities characteristic of strategic supply management correspond to the dimensions of boundary spanning activity?” The lists of activities are the same lists from the previous questions, and were drawn from the relevant academic literature. The SMEs will also provide the data for this question. They will compare the two lists, matching each SSM activity against the dimension of boundary spanning which they believe best describes that activity. The *none* coding option will be

available for this question as well. The data will be a list from each SME of SSM activities and an associated boundary spanning dimension for each SSM activity.

Investigative question 3.a. is the first of three questions addressing the motivation of government contracting personnel to apply these theories to their day-to-day jobs. It asks, “How well do the commercial practices recommended by senior DoD officials and government contracting experts correspond to the standards of the contract negotiator position description?” The list of commercial practices is the same list from previous questions. The government contract negotiator position description is the current position description, and was obtained from the Contracting Directorate at Wright-Patterson Air Force Base. The SMEs will compare the commercial practices against the standards in the position description, and will match each standard to the commercial practice they believe best characterizes that standard. As usual, a *none* coding option will be available. For each SME, the data will be a list of the standards in the position description and an expert-recommended commercial practice associated with each standard.

Investigative question 3.b. continues the focus on motivation, asking, “How well do the standards of the contract negotiator position description correspond to the four dimensions of boundary spanning activity?” The SMEs will provide the data for this question, by comparing the standards in the position description against the dimensions of boundary spanning activity (including the *none* option). Each SME will provide data in the form of the list of standards with an associated boundary spanning dimension for each standard.

Investigative question 3.c. is the third question dealing with motivation. It asks, "How well do the activities characteristic of strategic supply management correspond to the standards of the government contract negotiator position description?" In the same manner as with the previous investigative questions, the SMEs will provide the data by comparing the list of strategic supply management activities against the standards in the position description (and the usual *none* choice). Each SME will provide data in the form of a list of the standards and a matching strategic supply management activity for each standard.

4.a. How important does scanning appear to be to the role of the government contract negotiator? The data for this question will be drawn from the data provided for the those investigative questions that include an analysis of scanning (or scouting, which is essentially the same concept).

### **Explanation of Analytical Techniques**

This section explains the two primary analytical techniques used in this study. First, basic data analysis is performed, in the form of quantitative analysis and descriptive statistics, with the purpose of identifying possible trends or areas of significant agreement. The reader should understand that trends and significance are used in the nontechnical sense; this research does not purport to show, and therefore does not seek, statistical significance. Second, analytic induction is applied, in the form of follow-up interviews with the subject matter experts, to better understand nonconforming data.

**Data Analysis.** Analysis will be performed separately for each investigative question, with data gathered for that question. The single exception will be investigative

question 4.a., for which the data is gathered from data collected for the other investigative questions. Frequency counts will be taken for each code response. These frequency counts will allow the calculation of the percentage which each code response represents of the total possible code responses. For example, if two subject matter experts were to code a list of five items, the resulting data would be ten code responses, five from each subject matter expert. The resulting counts and percentages will be analyzed for any patterns, and significant majority or minority responses will be noted. From these analyses, conclusions and recommendations will be drawn.

**Analytic Induction.** Analytic induction explores non-conforming data to understand why it does not conform (Campbell, 1997). Analytic induction enhances a study's claim to validity, and is an alternative to simply disregarding data which does not support the hypothesis (Campbell, 1997). As performed in this study, analytic induction will involve follow-up interviews with each subject matter expert (SME) to analyze non-conforming responses. The goal of these follow-up interviews will be to understand the rationale each SME had for any non-conforming responses, which will be those that do not correspond with the majority response, as defined by simple counting of responses. In a case where no majority response exists, all responses will be considered non-conforming and will be the subject of follow-up. Note that being identified as non-conforming does not in any sense imply that an answer is wrong. Given the varying backgrounds and experience levels of the SMEs, different coded responses are expected, and complete agreement on all coding responses would be considered uncanny.

## Coding

Codes were assigned for each list of activities or standards as follows. For those activities suggested by contracting experts (government executives and academics), the codes were:

<u>Code</u>	<u>Suggestion</u>
Market	Acquiring knowledge of the market and market research techniques
Acq Strat	Insight into and knowledge of acquisition strategies
Judgment	Having excellent business judgment
Teaming	Teaming with requirements experts to develop performance based statements of work
Commercial	<u>Maximizing use of commercial items</u>
None	Used if none of the codes applies

For those activities characteristic of strategic supply management, the codes were:

<u>Code</u>	<u>Activity</u>
EPI	1. Use of EPI/ESI
Buying	2. The basic purchasing functions
Qualification	3. Teaming to qualify and select suppliers
Partnering	4. Use of partnering and strategic alliances
Scanning	5. Identifying threats and opportunities in the external environment
Acq Plan	6. Developing long-term acquisition plans for all major materials
TQM	7. Monitoring continuous improvement in the supply chain
Strat Plan	8. Involvement in corporate strategic planning

For convenient reference, the full explanation of each activity in the strategic supply management list, as presented in Chapter II, is reproduced here:

- 1) Early purchasing involvement (EPI) and early supplier involvement (ESI) in product design and subsequent specification development for important items, typically through the use of cross-functional teams.
- 2) *Conduct of all purchasing and procurement process activities.* [Emphasis in original. This item refers to basic functions such as sourcing, negotiation, contract administration, and basic market studies.]
- 3) Heavy use of cross-functional teams in supplier qualification and selection.
- 4) Heavy use of purchasing partnering arrangements and strategic alliances with

suppliers—to develop close and mutually beneficial linkages with key suppliers in the value chain and to control quality and costs.

- 5) Continuous identification of threats and opportunities in a firm's supply environment.
- 6) Development of strategic, long-term acquisition plans for all major materials.
- 7) The monitoring of continuous improvement in the supply chain.
- 8) Active participation in the corporate strategic planning process. (Dobler and Burt, 1996:35-36)

Finally, the boundary spanning dimensions—ambassador, task coordinator, scout, and guard—identified in the literature review were used as codes for those activities. A fifth code, *none* was used when none of the four boundary spanning dimensions apply.

The contract negotiator position description presents the requirements of the job in the form of eleven major duties, each of which has associated to it between one and five descriptive or explanatory standards. These duties and standards, taken verbatim from the Air Force Core Personnel Document, are:

DUTY 1: Performs work associated with a wide range of contract types and contracting methods. Critical.

STANDARDS:

- A. Displays and applies knowledge of a wide range of contracting methods and contract types to effectively plan and carry out required contracting actions.
- B. Thoroughly analyzes difficult contracting issues and identifies appropriate alternative courses of action.
- C. Modifies standard procedures and terms as necessary to satisfy specialized requirements and effectively solve a variety of contracting problems. Significantly departs from previous approaches as required to develop sound resolution or approach that complies with regulatory/procedural requirements and that will meet the government's needs.
- D. Ensures contracts include and adequately define special provisions and incentives such as price redetermination, cost and performance incentive provisions, or proprietary rights provisions.

DUTY 2: Performs work associated with preaward and postaward phases of long-term (multiple year) contracts for assigned systems or programs encompassing

complex equipment, systems, subsystems, services and/or RDT&E programs.

Critical.

**STANDARDS:**

- A. Accomplishes thorough review, research, and analysis in support of preaward and postaward phases of long-term (multiple year) contracts for assigned programs.
- B. Makes sound recommendation to organizational management for approval of procurements ensuring issues, uncertainties, interests, and all aspects of the program/system have been considered.

**DUTY 3:** Reviews and evaluates requisitions and purchase requests, develops plans and determines acquisition strategy, or recommends method of procurement.

Critical.

**STANDARDS:**

- A. Reviews previous history, market conditions, and specifications or technical data packages and develops a well-organized, realistic, and sound contracting plan to meet the government's needs.
- B. Independently plans and manages procurements with technical, legal, and contract pricing personnel ensuring necessary preaward actions are completed within regulatory and time requirements to meet objectives.
- C. Provides guidance in development of the statement of work and data requirements. Effectively resolves problems which limit competition and modifies contract language which discourage potential bidders.
- D. Works with program managers, contractors, and potential bidders to identify possibilities for converting production to government needs.

**DUTY 4:** Performs work involved in contract negotiation. Critical.

**STANDARDS:**

- A. Plans and develops the government's negotiation position. Regularly meets with suppliers or their representatives to effectively negotiate prices, delivery dates, specifications, or similar matters.
- B. Thoroughly evaluates technical and cost proposals and establishes an appropriate competitive range for purpose of conducting negotiations.
- C. Effectively represents the government's position in contract negotiations on cost and technical issues. Negotiates fair and reasonable contract terms, conditions, and prices. Definizes the contract, makes supplemental agreements or revisions and finalizes contract clauses ensuring objectives and requirements are met.

**DUTY 5:** Reviews and evaluates contractor bids and proposals. Critical.

**STANDARDS:**

- A. Performs detailed analysis of bids or proposals received ensuring strict compliance with specifications and determining bid responsiveness.

DUTY 6: Prepares contractual documents.

STANDARDS:

- A. Compiles complete bidders' list from qualified applications, knowledge of suppliers, contacts with trade associations, Small Business Administration, or other sources.
- B. Drafts or prepares final contract ensuring inclusion of appropriate standard and special clauses such as packaging and shipping requirements, inspection provisions, specifications, etc.
- C. Prepares complete contract file with appropriate support documentation including justification for award.

DUTY 7: Analyzes, resolves and ensures disposition of audit reports. Critical.

STANDARDS:

- A. Reviews and takes appropriate action on audit reports within established timeframes. Evaluates audit reports by analyzing facts and performing necessary research. Presents appropriate recommendations on unresolved or questionable problems. Follows up on a regular basis to ensure complete resolution and disposition of audit reports.

DUTY 8: Provides advice and assistance to others related to contracting work.

Critical.

STANDARDS:

- A. Effectively represents the interests of the organization in a professional manner in meetings and in various contacts outside the organization on a variety of issues that often are not well-defined. Contributes to timely and viable resolution of issues and problems. Recommendations are complete, effective, coordinated and well researched.
- B. Establishes effective working relationships and provides accurate advice and assistance to installation technical or program personnel, sales representatives and/or local suppliers whenever information is needed or issues need to be resolved so that contractual actions and products are complete, effective, coordinated, and well-researched.
- C. Establishes effective working relationships with co-workers and personnel in closely related units contributing to a cooperative working environment and timely accomplishment of work.
- D. Establishes and maintains contacts to provide advice and assistance, effectively plan, advise, and/or coordinate common contractual actions, or resolve related issues while endeavoring to maintain cooperative attitudes and mutual goals.
- E. Develops and effects persuasive strategies so as to convince those initially opposed to agree to contractual positions.

**DUTY 9:** Communication (oral and written), working relationships, and quality are major components for fully successful performance of every duty (element) of this core document. Critical.

**STANDARDS:**

- A. Writes clear, concise, and technically accurate memoranda, letters, documents, or reports that support contractual actions or recommendations.
- B. Uses tact and diplomacy in orally communicating with others and presents a good image as a representative of the organization.
- C. Establishes effective professional working relationships with coworkers, contractors, using organizations, or contacts outside the agency contributing to a cooperative working environment and successful accomplishment of the mission.
- D. Accepts responsibility and accountability willingly, shows willingness to learn new work methods, and try new ideas. Readily adapts to new situations and changing work environments to include participation in the total quality management program.
- E. Reviews/evaluates work processes, methods, and products and seeks improvements. Actively expresses and contributes ideas/suggestions for analysis and implementation, if approved. Demonstrates sensitivity to ideas of fellow workers and supervisors.

**DUTY 10:** Safeguards sensitive and/or classified information. Critical.

**STANDARDS:**

- A. In accordance with security regulations appropriately handles and safeguards sensitive and classified information and material to reduce potential compromise.

**DUTY 11:** Performs special assignments and projects as required. Non-critical.

**STANDARDS:**

- A. Recommends the need for and participates on special projects and in studies. Makes recommendations as to the resources needed and establishes milestones to achieve desired goals. Ensures final product meets stated objectives, addresses pertinent issues and reflects an understanding of the impact of the project and/or final product. (Air Force Core Personnel Document, CD Number: PKX-65092)

### **Validity and Reliability**

This section addresses validity and reliability, and the means employed in this study to address each. Basically, “[v]alidity refers to the extent to which a test measures what we actually wish to measure. Reliability has to do with the accuracy and precision of a

measurement procedure" (Thorndike and Hagen, 1969:5). A common example distinguishing the two is the thermometer:

A thermometer that shows the same reading of 82 degrees each time it is plunged into boiling water gives a reliable measurement. A second thermometer might give readings over a series of measurements that vary around 100 degrees. The second thermometer would be unreliable, but relatively valid, whereas the first would be invalid but perfectly reliable. (Kirk and Miller, 1986:19)

**Validity.** According to Cooper and Emory, validity may be divided into two major forms: internal and external (Cooper and Emory, 1995:149). Internal validity addresses whether differences found in the research effort reflect true differences in the research subjects, while external validity addresses whether research results can be generalized beyond the study subjects (Cooper and Emory, 1995:149).

Internal validity addresses whether differences found by the research reflect true differences in the research subjects. The challenge here is that if we knew the true differences in the research subjects, we would not be doing the research; alternatively stated, the challenge lies in determining that our research results (the differences found) reflect true differences when we do not know the true differences in the first place (Cooper and Emory, 1995:149). Cooper and Emory suggest approaching the problem of determining internal validity by focusing on three major types of internal validity: content validity, criterion-related validity, and construct validity (Cooper and Emory, 1995:149).

Content validity represents how well the research tool, for example the questionnaire or the interview, covers the topic being researched (Cooper and Emory, 1995:149). For example, if a study wanted to address the overall success of science education at a major

state university, a survey of, say, doctoral veterinary students only would not adequately cover the topic, because it ignores entire schools and departments (e.g., engineering, medicine, and biology) and entire classes of students (undergraduate, masters-level, and continuing-education). This study employed careful development of the research questions, and a panel of judges, both of which are accepted means of addressing content validity (Cooper, 1995:149). The general research methodology, to include the general research questions, were developed in a seminar with seven other subject-matter experts (SME)—all graduate students in contracting, with experience levels ranging from one to 25 years. These SMEs reviewed the general methodology, including the research questions, and suggested improvements to better understand the subject. The final methodology evolved from that developed in the seminar, and reflects consideration for the SME suggestions and recommendations.

Criterion-related validity addresses how successfully the research tool can be used to predict the future or to estimate the present (Cooper, 1995:150). Predictive validity is the extent to which the study accurately predicts the future; concurrent validity is the extent to which the study accurately reflects the present (Cooper, 1995:150). Because no attempt is made at prediction, criterion-related validity here is concerned with accurate reflection of the present. Cooper and Emory suggest four factors to use in determining criterion-related validity; the data used in the study should be relevant, free of bias, reliable, and available (Cooper and Emory, 1995:150). Relevance relates to whether the criteria is the proper measure for the subject under study; freedom from bias ensures each subject can score equally well; reliability refers to stability or reproducibility of data; finally, the data should be

readily available or economically obtainable (Cooper and Emory, 1995:150). To help enhance criterion-related validity, this study used a current, standard position description for the subject organization, locally-assigned subject matter experts, and interviews with locally-assigned personnel. These steps help ensure this study provides an accurate reflection of the present.

Construct validity is useful when a study tries to “measure or infer the presence of abstract characteristics for which no empirical validation seems possible” (Cooper and Emory, 1995:151). Construct validity “attempts to identify the underlying construct(s) being measured and determine how well the test represents them” (Cooper and Emory, 1995:152). An example of construct validity is how successfully a test of employee job satisfaction measures actual job satisfaction. This study does not measure the presence of an abstract characteristic; rather, it examines possible motives for specific behaviors (actions as boundary spanners).

Cooper and Emory describe several so-called threats to internal validity: history, maturation, testing, instrumentation, selection, statistical regression, and experiment mortality (Cooper and Emory, 1995:358-359). Various facets of the research design combine to minimize the actual threat each of these facets pose to the study. First, this study does not seek to show causality, and these threats are largely related to causality. Second, one of the benefits of qualitative research and case studies is that the researcher can return to the subjects to clarify understandings and to pursue new avenues uncovered previously in the

research. A third protection, related to the second, is analytic induction (described below).

Nevertheless, the steps taken to minimize each threat are detailed below.

History refers to an unplanned event that occurs during the experiment and that confuses the relationship being studied (Cooper and Emory, 1995:358). To counter this threat, this study adopts a short time-frame, and the desired data outcomes are knowledge of the interviewees' understanding of an explicit job responsibility, and knowledge of the interviewees' past experiences.

Maturation refers to changes to the subject that are a function solely of the passage of time; that is, the changes are unrelated to a specific event, as would be the case for the history threat discussed above (Cooper and Emory, 1995:358). This can include such simple problems as a subject becoming hungry, bored, or tired; or much larger problems (Cooper and Emory, 1995:358). To counter this threat, which should primarily be in the form of the more common-place problems such as hunger and boredom, the interviews and coding will be short (estimated at less than two hours total).

Testing refers to a pretest providing the subject with a learning effect on subsequent tests (Cooper and Emory, 1995:358). No testing, per se, occurs here. One pretest was performed, but the participant in the pretest had no contracting experience, and the pretest was designed purely to sensitize the researcher to possible interpretations of the material being coded. The pretest subject did not participate otherwise in the actual study. This is similar to the reactivity of testing and the experimental treatment threat to external validity discussed below, and the precautions taken to minimize this threat to internal validity are similar.

Instrumentation problems include changes between observations in either the observer or the instrument itself (Cooper and Emory, 1995:358). This threat is somewhat negated by the advantages of qualitative and case study designs, in that the researcher can revisit questions to ensure a germane response to each question, and to perform analytic induction.

Selection refers to problems arising from inadequate assignment to experimental and control groups (Cooper and Emory, 1995:359), and as such is not applicable to this study. Statistical regression occurs whenever an extreme scorer on a pretest is retested. The tendency is for everyone to move toward their long-run means over repeated testing (Cooper and Emory, 1995:359). This study does not seek statistical significance, so this threat is not applicable.

Finally, experiment mortality refers to changes in the study group composition over time (Cooper and Emory, 1995:359). This study counters this threat in several ways. First, the time-frame is short (less than sixty days). Second, the interviewees are all geographically collocated with the researcher, ensuring continued access. Third, the study imposes no great burdens of time or effort on the interviewees, which might otherwise discourage continued participation.

External validity refers to whether the study's results generalize beyond the study subjects. This study takes both a proactive and reactive approach to achieving external validity. First, it proactively attempts to enhance external validity. The proactive technique employed is relating the instant case to other cases. Relating the instant case to other cases

compares key characteristics of the instant case to other cases to argue for possible generalizability (Campbell, 1997). This study compares generally ASC to other acquisition centers in the Air Force. Second, this study reactively employs techniques to minimize what Cooper and Emory call threats to external validity. Cooper and Emory categorize what they call these threats to external validity as: the reactivity of testing on the experimental treatment; the interaction of selection and the experimental treatment; and other reactive factors (Cooper and Emory, 1995:360).

The reactivity of testing on the experimental treatment refers to a sensitization of one of the subjects by a pretest, so that the subject responds to the experimental treatment in a different way (Cooper and Emory, 1995:360). Pretesting was done, but with a non-SME, who did not participate in the study proper, and whose results were used solely to improve the researcher's understanding of and presentation of the subject matter to the SMEs; this threat is therefore minimized.

Interaction of selection and the experimental treatment refers to whether the population from which the subjects were selected is the same as the population to which the study seeks to generalize (Cooper and Emory, 1995:360). The subjects are published lists of activities and coding performed by experts in the field. The lists of activities present no threat. The experts in the field were all assigned as fellow graduate students with the researcher, and as such they attended most of the same courses as the researcher. Some possible selection biases or sensitization because of the similar course work could possibly distinguish the test subject coders from government contract negotiators as a whole. This is a weakness of the study design addressed in Chapter V.

Other reactive factors include such factors as the research setting and whether the subjects know they are participating in a study or experiment (Cooper and Emory, 1995:360). No attempt was made to minimize either of these factors. Subjects were notified they were participating in a study, and the coding and reviews were performed generally at or near the Air Force Institute of Technology campus.

**Reliability.** Reliability contributes to validity; it is a necessary condition for validity, but not a sufficient condition (Cooper and Emory, 1995:153). That is, without reliable measures, you cannot have validity; with reliable measures, the best you can say is that you might have validity, too. This study employs two basic techniques to enhance reliability: multiple coders and triangulation.

Using multiple coders is essentially self-explanatory; it consists of either calculating inter-rater reliability statistics, or revising coding based on feedback sessions with the coders (Campbell, 1997). The basic argument is that if more people get the same results, the reliability of the findings is higher. This technique addresses what Cooper and Emory call the equivalence aspect of reliability, which they define as concerning the amount of error introduced by different investigators or different samples (Cooper and Emory, 1995:153-154). The coders used consisted of three groups. First, the researcher coded all information. Second, career government contract negotiators with experience at Wright-Patterson Air Force Base coded the data. Finally, a coder unrelated to government contracting—a non-subject-matter-expert (non-SME) coded the data. This non-SME coder provided valuable insights into possible interpretations of the material being coded, but these insights were

limited to a pretesting function; the non-SME did not participate in the actual study, and the non-SME results are therefore not included in the study results. The non-SME coding was the first coding analyzed, and by the process of analytic induction, the researcher gained valuable understandings of different ways other SMEs might code the data. For example, the non-SME might have naively read into a position description standard much interaction, where none is probably implied, or vice versa. Nevertheless, analyzing this coding through a follow-up interview better prepared the researcher for the possible range of codings the SMEs might initially provide.

Silverman defines triangulation as “[c]omparing different kinds of data...and different methods...to see whether they corroborate each other” (Silverman, 1993:156). It is useful in improving both validity and reliability (Campbell, 1997). Triangulation here includes the coding results from multiple coders and the interview results. Silverman, a sociologist, is concerned that using triangulation is not a good way to determine validity; he argues essentially that all data gathered in sociological contexts are useful data, and using triangulation possibly to reject some data as non-conforming would be a mistake (Silverman, 1993:157-158). To avoid Silverman’s potential pitfall, rather than reject non-conforming data, the researcher will pursue it to determine why it does not conform, using the technique of analytic induction discussed above.

## **Summary**

This research study explored the new focus in government contracting on the commercial marketplace, both as a source of goods and services and as a source of ideas,

techniques, and practices that can help government contracting personnel do their jobs better. With acquisition reform as its foundation, the research investigated how several theories—commercial purchasing, boundary spanning, reward theory, and expectancy theory—can help understand the impact of this new focus.

The research was qualitative and exploratory, applying a case study methodology to contracting personnel at Wright-Patterson Air Force Base, Ohio. Primary data collection methods were by subject matter expert coding and text analysis, with follow-up interviews providing the opportunity to perform analytic induction on non-conforming data. Several methods, including triangulation and analytic induction, were used to enhance the validity and reliability of the research.

Chapter IV of this study reports the analysis of the data. Chapter V draws tentative conclusions, discusses limitations of this study, and makes recommendations for future avenues of study in this area.

#### *IV. Results*

#### **Overview**

For this study, several subject matter experts (SME) compared the various lists of activities and standards which government contracting personnel either do perform or are being encouraged to perform. These lists include those activities recommended by such experts as Office of Federal Procurement Policy Director Kelman and Professor Ralph Nash, those activities characteristic of strategic supply management, the boundary spanning dimensions, and the standards in the government contract negotiator position descriptions. This chapter presents the results of the SME comparisons, which took the form of coding each list against the other lists to determine the level of consistency among the lists. This format of presentation follows the order of the investigative questions, which address these specific comparisons. Analysis of these results and related conclusions are in Chapter V.

#### **Investigative Question 1.a: Expert-Recommended Activities Versus Strategic Supply Management Activities**

This section addresses investigative question 1.a., comparing those activities recommended by the senior government acquisition officials and academic experts to the list of those activities characteristic of strategic supply management (SSM).

The SMEs coded the lists of expert-recommended activities against the list of activities characteristic of SSM, with the results shown in table two. There was wide agreement among the SMEs that SSM appears to correspond well generally with the expert-recommended activities; however, some disagreement occurred over which specific activity

of SSM theory best corresponded to a given expert-recommended activity. This pattern of results is discussed further in Chapter V.

The codes used to address investigative question 1.a. were:

<u>Code</u>	<u>Suggestion</u>
Market	Acquiring knowledge of the market and market research techniques
Acq Strat	Insight into and knowledge of acquisition strategies
Judgment	Having excellent business judgment
Teaming	Teaming with requirements experts to develop performance based statements of work
Commercial	Maximizing use of commercial items
None	Used if none of the codes applies

The activities characteristic of SSM theory, reproduced from Chapter II, are:

- 1) Early purchasing involvement (EPI) and early supplier involvement (ESI) in product design and subsequent specification development for important items, typically through the use of cross-functional teams.
- 2) *Conduct of all purchasing and procurement process activities.* [Emphasis in original. This item refers to basic functions such as sourcing, negotiation, contract administration, and basic market studies.]
- 3) Heavy use of cross-functional teams in supplier qualification and selection.
- 4) Heavy use of purchasing partnering arrangements and strategic alliances with suppliers—to develop close and mutually beneficial linkages with key suppliers in the value chain and to control quality and costs.
- 5) Continuous identification of threats and opportunities in a firm's supply environment.
- 6) Development of strategic, long-term acquisition plans for all major materials.
- 7) The monitoring of continuous improvement in the supply chain.
- 8) Active participation in the corporate strategic planning process.

As table two shows, the researcher supplied all but one of all the *none* codes in this section. Only one other SME believed any of the SSM activities were not related to the expert-recommended activities—activity number seven, monitoring continuous improvement in the supply chain. The SMEs unanimously agreed that SSM activity number six,

developing strategic long-term acquisition plans for major materials, corresponded to the *acquisition strategy* expert recommendation, that is, the recommendation to develop excellent knowledge of acquisition strategies.

Table 2. SSM Activity Versus Expert-Recommended Activity

SSM Activity	Researcher	SME #1	SME #2	SME #3
1	None	Teaming	Teaming	Teaming
2	None	Acq Strat	Market	Judgment
3	None	Market	Teaming	Teaming
4	Market	Judgment	Teaming	Market
5	None	Market	Market	Market
6	Acq Strat	Acq Strat	Acq Strat	Acq Strat
7	None	None	Market	Market
8	None	Judgment	Acq Strat	Judge

Because the researcher lacked actual work experience in the subject organization, analysis also was performed on only the SME codings. This additional analysis investigates whether subject group experience changes the codings. The SMEs unanimously agreed on the specific code for two other SSM activities: activity one, early purchasing and supplier involvement, which they coded as *teaming*; and activity five, continuous identification of threats and opportunities, which they coded as having expert knowledge of the market. Finally, no SME, including the researcher, used the code signifying maximal use of commercial items.

In summary, table two shows a relatively high general correspondence between SSM theory and the expert-recommended activities. The SMEs agreed that each expert-recommended activity could be explained by some SSM activity; however, some

disagreement existed over which SSM activity best corresponded to a given expert-recommended activity.

### **Investigative Question 2.a: Expert-Recommended Activities Versus Boundary**

#### **Spanning Dimensions**

This section addresses investigative question 2.a., comparing the four boundary spanning dimensions against those activities recommended by senior government acquisition officials and academic experts.

The SMEs coded each of the five recommended activities against the list of boundary spanning dimensions (including the *none* option, which signified no significant boundary spanning activity was represented). The results of this coding are shown in table three.

The expert-recommended activities were:

1. Acquiring knowledge of the market and market research techniques
2. Insight into and knowledge of acquisition strategies
3. Having excellent business judgment
4. Teaming with requirements experts to develop performance based statements of work
5. Maximizing use of commercial items

The codes used in this section were the codes for the dimensions of boundary spanning behavior, as identified in the literature review: *ambassador, task coordinator, scout, and guard*. A fifth code, *none*, was used when none of the four boundary spanning dimensions applied.

The SMEs all coded the first expert-recommended activity, acquiring knowledge of the market and market research techniques, as a *scouting* activity, that is, an activity

involving scanning the external environment for ideas and information. The SMEs also all coded the fourth expert-recommended activity, that of teaming with requirements experts to develop and employ performance based statements of work, as *task coordination*. Results on the other three expert-recommended activities were less consistent, with answers covering the range of boundary spanning activities, except that the code for *guard* activities was never used. While these results were not consistent, the inconsistency was in choosing the specific boundary spanning dimension that corresponded to a given expert-recommended activity. The SMEs nevertheless agreed that some aspect of boundary spanning theory corresponded fairly well to most of the expert-recommended activities. None of the SMEs believed that any of the expert-recommended activities was primarily involved in controlling the release of information or managing the SPO's image with outsiders.

Table 3. Expert-Recommended Activity Versus Boundary Spanning Dimensions

Recommended Activity	Researcher	SME #1	SME #2	SME #3
1	Scout	Scout	Scout	Scout
2	None	Task Coord	Scout	None
3	None	Task Coord	None	Scout
4	Task Coord	Task Coord	Task Coord	Task Coord
5	None	Scout	None	Scout

Two other significant observations can be made. First, half of all the *none* responses, signifying no significant boundary spanning activity was involved, were supplied by the researcher. These responses were in activities two, three, and five. Second, the predominant code response, comprising forty percent of all code responses, was *scout*.

In summary, the SMEs agreed that boundary spanning theory appears to correspond fairly well to the expert-recommended activities. Most disagreements among the SMEs were at the level of determining which dimension of boundary spanning theory best corresponded to a given expert-recommended activity.

### **Investigative Question 2.b: Strategic Supply Management Activities Versus Boundary Spanning Dimensions**

This section addresses investigative question 2.b., comparing the four boundary spanning dimensions against the eight activities representative of the strategic supply management (SSM).

The codes used in this section were the codes for the dimensions of boundary spanning behavior, as identified in the literature review: *ambassador, task coordinator, scout, and guard*. A fifth code, *none* was used when none of the four boundary spanning dimensions applied.

The activities characteristic of strategic supply management, as discussed in Chapter II, are:

- 1) Early purchasing involvement (EPI) and early supplier involvement (ESI) in product design and subsequent specification development for important items, typically through the use of cross-functional teams.
- 2) *Conduct of all purchasing and procurement process activities.* [Emphasis in original. This item refers to basic functions such as sourcing, negotiation, contract administration, and basic market studies.]
- 3) Heavy use of cross-functional teams in supplier qualification and selection.
- 4) Heavy use of purchasing partnering arrangements and strategic alliances with suppliers—to develop close and mutually beneficial linkages with key suppliers in the value chain and to control quality and costs.
- 5) Continuous identification of threats and opportunities in a firm's supply

environment.

- 6) Development of strategic, long-term acquisition plans for all major materials.
- 7) The monitoring of continuous improvement in the supply chain.
- 8) Active participation in the corporate strategic planning process.

The results of the coding are shown in table four. The SMEs all coded the second SSM activity, performance of basic purchasing functions, as *task coordination*. They also all coded SSM activity number eight, participation in corporate strategic planning, as *ambassadorial*. While coding varied on the other six SSM activities, several observations can still be made.

Table 4. SSM Activities Versus Boundary Spanning Dimensions

SSM Activity	Researcher	SME #1	SME #2	SME #3
1	Task Coord	Task Coord	Task Coord	Ambassador
2	Task Coord	Task Coord	Task Coord	Task Coord
3	Task Coord	Task Coord	Guard	Scout
4	Task Coord	Task Coord	Task Coord	Scout
5	Scout	Ambassador	Ambassador	Scout
6	None	Task Coord	Task Coord	Scout
7	Task Coord	Scout	Scout	Scout
8	Ambassador	Ambassador	Ambassador	Ambassador

First, at least three-fourths of the SMEs concurred that every SSM activity involved significant boundary spanning behavior. On seven of the eight SSM activities, the SMEs concurred completely (one-hundred percent agreement) that the SSM activities involved significant boundary spanning behavior. In fact, the code *none* was used only once, and that one use was by the researcher. Second, at least seventy-five percent of the SMEs agreed on the specific coding for three other SSM activities: **activity one**, early purchasing and supplier involvement, which was coded as *task coordination* by the clear majority; **activity four**, use

of partnering and strategic alliances, which was coded as *task coordination*; and activity seven, monitoring continuous improvement in the supply chain, which was coded as *scouting*.

In summary, boundary spanning theory and strategic supply management theory appear to correspond very well. As with the previous analyses, the agreement is at the general level, with some disagreement as to which dimension of boundary spanning best corresponds to a given SSM activity.

#### **Investigative Question 3.a: Expert-Recommended Activities Versus Position**

##### **Description Standards**

This section addresses investigative question 3.a., comparing the expert-recommended activities against the standards in the position description for the GS-12 level government contract negotiator at Wright-Patterson Air Force Base, Ohio.

The codes used in this comparison were:

<u>Code</u>	<u>Suggestion</u>
Market	Acquiring knowledge of the market and market research techniques
Acq Strat	Insight into and knowledge of acquisition strategies
Judgment	Having excellent business judgment
Teaming	Teaming with requirements experts to develop performance based statements of work
Commercial	Maximizing use of commercial items
None	Used if none of the codes applies

The position description standards are those presented in Chapter III; they are not reproduced here for space considerations. The results of the comparison are depicted in table five.

The results for this comparison follow the familiar pattern of agreement at the general level but disagreement at the specific level. However, some patterns did emerge. First, the *none* response was large, with forty-two of the possible one-hundred twenty standard-activity codings. This level of response represented thirty-five percent of the total responses, second only to *judgment*, which tallied forty-four responses for over thirty-six percent of the total responses. No other code received even half the responses of these two codes. Codes representing expert-recommended activities accounted for sixty-five percent of the available responses. All but five of the *none* responses came in duties six through eleven. Duty six involves preparing documents; duty seven deals with disposition of audit reports; duty eight involves advising others in contracting-related situations; duty nine focuses on communication, relationships, and quality-management; duty ten governs safeguarding of classified information; and duty eleven covers special projects. The *none* response represents almost fifty-eight percent of the available responses for these five duties.

The code *judgment* received the most responses. It represented over thirty-six percent of the total responses, but a significant proportion of these responses came in the first five duties. Duty one addresses general contracting work; duty two involves work on long-term contracts; duty three involves acquisition planning; duty four focuses on negotiation, and duty five covers bid and proposal evaluation. The *judgment* code represented over fifty-five percent of the total responses for these five codes.

A final observation is that the code representing the emphasis on commercial items was used only once, on standard 3.d., which involves working with potential bidders to

convert production to government needs. The other responses on this item were spread among acquiring market knowledge, acquisition strategies, and business judgment.

Table 5. Expert-Recommended Activities Versus P. D. Standards

Standard	Market	Acq Strat	Judgment	Teaming	Commercial	None
1A		1	3			
1B			4			
1C		1	3			
1D			3			1
2A	2	1	1			
2B		2	2			
3A	1	3				
3B		1	1	1		1
3C		1	2	1		
3D	1	1	1		1	
4A		1	3			
4B		1	2			1
4C			4			
5A			2			2
6A	3			1		
6B			1	1		2
6C				1		3
7A			2			2
8A		1	1			2
8B		1	1	2		
8C		1				3
8D		1	1			2
8E		1	1			2
9A			1			3
9B			1			3
9C			1			3
9D			1			3
9E			2			2
10A						4
11A		1				3
Totals	7	19	44	7	1	42

The data was also analyzed for the SME responses only, and the responses are shown in table six.

Table 6. Expert-Recommended Activities Versus P. D. Standards (SME Responses Only)

Standard	Market	Acq Strat	Judgment	Teaming	Commercial	None
1A		1	2			
1B			3			
1C		1	2			
1D			2			1
2A	2		1			
2B		1	2			
3A	1	2				
3B		1	1			1
3C		1	2			
3D		1	1		1	
4A		1	2			
4B		1	1			1
4C			3			
5A			1			2
6A	2			1		
6B				1		2
6C				1		2
7A			1			2
8A		1				2
8B		1		2		
8C		1				2
8D		1				2
8E		1				2
9A			1			2
9B			1			2
9C			1			2
9D			1			2
9E			1			2
10A						3
11A		1				2
Totals	5	16	29	5	1	34

When the researcher codes were excluded, the results changed as shown in table six. The *none* code received thirty-four responses, or nearly thirty-eight percent of the total; expert-recommended activities received fifty-six responses, or over sixty-two percent of the total responses. The *none* code was the majority response, followed by the *judgment* code. The majority of the *none* responses remained in duties six through eleven, while the majority of *judgment* responses remained in duties one through five.

### **Investigative Question 3.b: Boundary Spanning Dimensions Versus Position**

#### **Description Standards**

This section addresses investigative question 3.b., comparing the boundary spanning dimensions against the standards in the position description for the GS-12 level government contract negotiator at Wright-Patterson Air Force Base, Ohio.

The codes used for this section were the boundary spanning dimensions: *ambassador, task coordinator, scout, and guard*. The *none* code, signifying none of the dimensions applied, was also used. The position description standards are presented in Chapter III, and are not reproduced here for space considerations. The results for this section are in table seven.

The SMEs compared the boundary spanning dimensions (including the *none* option) against the standards for each of the eleven duties required in the position description. The code *none* was used for over twenty-eight percent of the responses. The code *ambassador* was used for over twenty-two percent of the total responses, the code *task coordination* was used for over thirty percent of the total responses, and the codes *guard* and *scout* were each

used for just over nine percent of the total responses; the codes for boundary spanning dimensions represented over seventy percent of the total responses. *Task coordination* was the single most frequent response.

Table 7. Boundary Spanning Dimensions Versus P. D. Standards

Standard	None	Ambassador	Task Coordination	Guard	Scout	% Boundary Spanning
1A	2	0	2	0	0	50
1B	2	0	2	0	0	50
1C	2	0	2	0	0	50
1D	2	0	1	1	0	50
2A	1	0	0	0	3	75
2B	1	1	0	1	1	75
3A	1	1	0	0	2	75
3B	1	1	2	0	0	75
3C	1	1	2	0	0	75
3D	0	2	2	0	0	100
4A	0	0	3	1	0	100
4B	1	0	2	1	0	75
4C	0	0	3	1	0	100
5A	3	0	0	0	1	25
6A	1	0	1	0	2	75
6B	2	0	1	1	0	50
6C	2	0	1	1	0	50
7A	1	0	3	0	0	75
8A	0	4	0	0	0	100
8B	0	2	2	0	0	100
8C	0	2	2	0	0	100
8D	0	1	3	0	0	100
8E	0	2	2	0	0	100
9A	2	2	0	0	0	50
9B	1	3	0	0	0	75
9C	1	3	0	0	0	75
9D	3	1	0	0	0	25
9E	2	0	0	0	2	50
10A	0	0	0	4	0	100
11A	2	1	1	0	0	50
Totals	34	27	37	11	11	71.67

The SMEs unanimously agreed on the coding for two standards: standard 8A, which involves representing the interests of the organization professionally in contacts outside the organization, was coded as *ambassador* behavior; and standard 10A, which involves safeguarding sensitive and classified information against compromise, was coded as *guard* behavior. While they agreed on the specific code for only two of the thirty standards, the SMEs did reach one-hundred percent agreement that nine of the thirty standards were best classified as some form of boundary spanning behavior; that is, for nine of the thirty standards, no *none* codes were used. Also, *none* codes represented at least fifty percent of the coding for only eleven standards, and represent a clear majority (seventy-five percent or greater) on only two standards; no standard was unanimously agreed on as justifying a *none* code (no significant boundary spanning behavior involved).

The SMEs coded the descriptive or explanatory standards for the duties in the position description, not the duties themselves; however, analysis at the duty level of all the coding for each individual duty is also revealing. While no duty was unanimously coded the same specific boundary spanning dimension, coding for duties eight—providing advice and assistance to other related to contracting work—and ten—safeguarding sensitive or classified information—was one-hundred percent in one of the boundary spanning dimensions. (Duty ten admittedly had only one associated standard, but duty eight had five such standards.) The coding for the standards in duties three and four was also over eighty percent and ninety percent boundary spanning, respectively, and the coding for the standards in both duties two and seven was seventy-five percent boundary spanning. The total coding for all standards

was below fifty percent for only one duty (duty five, which has only one standard), and was as low as fifty percent for only two more (duties one and eleven). In summary, in eight of the eleven duties, the total number of SME codes that represented boundary spanning behaviors was greater than fifty percent of the total available code-standard combinations. A final observation is that *scouting* behavior was not well represented in the coding results (just over nine percent).

The results were also analyzed after removing the researcher's own coding from the totals, and the results of this comparison are shown in table eight. After omitting the researcher's responses, use of the code *none* dropped from over twenty-eight percent to under eighteen percent. Use of all codes representing boundary spanning dimensions increased: *ambassador* from twenty-two and one-half percent to over twenty-six and one-half percent; *task coordinator* from just under thirty-one percent to just over thirty-two percent; *guard* from just over nine percent to just over eleven percent; and *scout* from just over nine percent to just over twelve percent. Use of codes representing boundary spanning dimensions increased from over seventy-one percent to over eighty-two percent of the total codings.

After removing the researcher's codings, the total number of standards for which the SMEs agreed unanimously on the specific code increased from two to four, adding standards 2A and 7A to the previously unanimous standards 8A and 10A. (That is, the researcher provided the only differing coding for these two standards.) Also the number of standards for which the SMEs' codes all represented one of the boundary spanning dimensions increased from nine (thirty percent of the total standards) to sixteen (over fifty-three percent of the total

standards). Conversely, standards which received at least fifty percent of their codings as *none* dropped from over thirty-six percent to less than seven percent.

Table 8. Boundary Spanning Dimensions Versus P. D. Standards (SME Responses Only)

Standard	None	Ambassador	Task Coordination	Guard	Scout	% Boundary Spanning
1A	1	0	2	0	0	67
1B	1	0	2	0	0	67
1C	1	0	2	0	0	67
1D	1	0	1	1	0	67
2A	0	0	0	0	3	100
2B	0	1	0	1	1	100
3A	0	1	0	0	2	100
3B	0	1	2	0	0	100
3C	0	1	2	0	0	100
3D	0	2	1	0	0	100
4A	0	0	2	1	0	100
4B	1	0	1	1	0	67
4C	0	0	2	1	0	100
5A	2	0	0	0	1	33
6A	0	0	1	0	2	100
6B	1	0	1	1	0	67
6C	1	0	1	1	0	67
7A	0	0	3	0	0	100
8A	0	3	0	0	0	100
8B	0	2	1	0	0	100
8C	0	2	1	0	0	100
8D	0	1	2	0	0	100
8E	0	2	1	0	0	100
9A	1	2	0	0	0	67
9B	1	2	0	0	0	67
9C	1	2	0	0	0	67
9D	2	1	0	0	0	33
9E	1	0	0	0	2	67
10A	0	0	0	3	0	100
11A	1	1	1	0	0	67
Totals	16	24	29	10	11	82.22

The differences also appeared in the analysis at the duty level. The number of duties for which all the standard codes were boundary spanning codes increased from two to five, adding duties two, three, and seven to the previous duties eight and ten. Only one duty, duty five, had *none* as the majority code for its standard-level coding.

In summary, the SMEs generally agreed that the government position description standards do appear to encourage boundary spanning behavior. Disagreements were at the level of determining which boundary spanning dimension corresponded primarily to a given position description standard.

### **Investigative Question 3.c: Strategic Supply Management Activities Versus Position Description Standards**

This section addresses investigative question 3.c., comparing the activities characteristic of strategic supply management against the standards in the position description for the GS-12 level government contract negotiator at Wright-Patterson Air Force Base, Ohio.

The codes used in this comparison were:

<u>Code</u>	<u>Activity</u>
EPI	1. Use of EPI/ESI
Buying	2. The basic purchasing functions
Qualification	3. Teaming to qualify and select suppliers
Partnering	4. Use of partnering and strategic alliances
Scanning	5. Identifying threats and opportunities in the external environment
Acq Plan	6. Developing long-term acquisition plans for all major materials
TQM	7. Monitoring continuous improvement in the supply chain
Strat Plan	8. Involvement in corporate strategic planning

The position description standards are the same as in investigative questions 3.a. and 3.b., and are not presented here for space considerations. The results of the comparison are in table nine, and the results of the comparison without the researcher's responses are in table ten.

The results show that the code *buying*, representing the performance of basic purchasing functions like finding sources and negotiating contracts, received the clear majority of responses: Seventy of the total one-hundred twenty available, or over fifty-eight percent of the total available responses. The *none* response received only fifteen percent of the total available responses, and no other code received even that high a response rate.

Duties one, four, and five all received unanimous responses, and all were coded *buying*. Duty one involves work associated with contract types and methods, duty four is negotiation, and duty five is bid and proposal evaluation. On the other hand, fourteen of the eighteen *none* responses occurred in only three duties: duty nine, which deals with communication, interpersonal relationships, and intraorganizational quality management; duty ten is safeguarding of classified information; and duty eleven is the catch-all *special projects* duty.

The *buying* code again received the clear majority of responses, fifty-one of the ninety available, or over fifty-six percent of the total. The *none* code received thirteen responses, or over fourteen percent of the total, and no other code achieved even a ten percent response rate. These response rates are essentially identical to those calculated when the researcher's responses were included. Nine of the thirteen *none* responses—over sixty-

nine percent of the total *none* responses—were in duties nine, ten, and eleven; this is somewhat less than the nearly seventy-eight percent figure arrived at when the researcher's responses were included. Duties one, four, and five remained coded unanimously as *buying*.

Table 9. SSM Activities Versus P. D. Standards

Standard	EPI	Buying	Qual	Partner	Scan	Acq Plan	TQM	Strat	None
1A		4							
1B		4							
1C		4							
1D		4							
2A	1	2				1			
2B	1	1				2			
3A		1				3			
3B		2				2			
3C		2				2			
3D		1	1			2			
4A		4							
4B		4							
4C		4							
5A		4							
6A		3			1				
6B		4							
6C		4							
7A		2		1	1				
8A	1	1			1				1
8B	1	2							1
8C	1	2							1
8D	1	3							
8E	1	2							1
9A		2			1				1
9B		1			1				2
9C		2			1				1
9D					1		1		2
9E					1		1		2
10A								1	3
11A		1							3
Totals	7	70	1	1	8	12	2	1	18

Table 10. SSM Activities Versus P. D. Standards (SME Responses Only)

Standard	EPI	Buying	Qual	Partner	Scan	Acq Plan	TQM	Strat	None
1A		3							
1B		3							
1C		3							
1D		3							
2A	1	2							
2B	1	1				1			
3A		1					2		
3B		2					1		
3C		2					1		
3D		1	1				1		
4A		3							
4B		3							
4C		3							
5A		3							
6A		2			1				
6B		3							
6C		3							
7A		1		1	1				
8A	1				1				1
8B	1	1							1
8C	1	1							1
8D	1	2							
8E	1	1							1
9A		1			1				1
9B		1			1				1
9C		1			1				1
9D					1		1		1
9E					1		1		1
10A								1	2
11A		1							2
Totals	7	51	1	1	8	6	2	1	13

## **Investigative Question 4.a: Importance of Scanning to the Government Contract**

### **Negotiator**

This section takes data from the other research questions to form a preliminary understanding of the importance of scanning to the government contract negotiator. The applicable research questions are those for which scanning, or scouting, was an available response.

In investigative question 2.a., the *scouting* code received forty percent of the total available responses, and was the majority response for this comparison of expert-recommended activities to boundary spanning theory. Investigative question 2.b. reviewed the relationship between strategic supply management and boundary spanning theory, and revealed that the *scouting* code received twenty-five percent of the total available responses. Investigative question 3.b. compared boundary spanning theory against the government position description, with the *scouting* code being used less than ten percent of the total possible responses. Investigative question 3.c. examined the correspondence between strategic supply management theory and the government position description; the *scanning* response was used less than ten percent of the total available responses.

### **Conclusion**

Do the theories discussed in the literature review appear to be useful in understanding the changing role of the government contract negotiator? Is the motivational mechanism in place to encourage government contract negotiators to apply these theories to improve how they acquire goods and services for the government? This chapter presented the results for

the separate investigative questions that address these general questions as a preliminary step toward drawing the conclusions presented in the next chapter. Chapter V analyzes these results, draws tentative conclusions, and suggests directions for future research.

## *V. Conclusions and Recommendations*

This chapter presents conclusions drawn from the results and analysis presented in Chapter IV. This chapter also suggests directions for further research, generally along the lines of validating and expanding this study's preliminary findings.

### **Conclusions**

This section draws specific conclusions based on the results for each investigative question, and then presents general conclusions based on the overall study results.

**Investigative Question 1.a: Expert-Recommended Activities Versus Strategic Supply Management Activities.** This question examined the relationship between the commercial practices recommended by senior DoD officials and government contracting experts and the activities characterizing strategic supply management (SSM). The goal was to draw a preliminary conclusion as to whether SSM could help understand the targets which these experts were setting up for government contracting personnel. This study suggests that SSM theory does correspond well to those activities which experts recommend government contracting personnel should perform. As with all the investigative questions and conclusions, and as addressed in more detail in Chapter IV, this correspondence is at the general level, that is the SMEs agree that some aspect of SSM theory applies well to all the expert-recommended activities; they disagree somewhat as to which specific aspect of SSM theory best characterizes any given expert-recommended activity.

From the results for this question, we can see that the researcher provided all but one of the *none* codes. This might be significant, because the researcher, unlike the other subject

matter experts (SMEs), has experience neither in the subject organization nor in the specific kind of contracting performed at the majority of the offices in the subject organization. The researcher's coding, therefore, was based on eight years of general experience in government contracting, vice the specific experience of the SMEs. These results suggest that experience in the subject organization might influence coding results.

Another observation is that the code signifying maximal use of commercial items was not used at all. This is not surprising, however, because SSM is a commercial purchasing theory, and the emphasis on commercial items is government, and especially DoD based, driven by the desire to get away from using military specifications for items readily available in the commercial market.

Finally, because over seventy-five percent of the available responses represent expert-recommended activities, the theory of strategic supply management appears to correspond fairly well to those activities recommended by government contracting experts. The correspondence becomes even more clear when the researcher's responses are removed, when the responses representing expert-recommended activities are over ninety-five percent of the total available responses. Removing the researcher's responses also revealed the unanimous agreement among the SMEs that activity one, early purchasing and early supplier involvement, represented *teaming* activity. It also revealed unanimous agreement among the SMEs that activity five, which involves threat and opportunity identification in the supply environment, should be coded *market*, for developing knowledge of the market. In summary, the SMEs believed that some aspect of SSM theory explained, with only one exception,

every expert-recommended activity. Differences of opinion as to which specific aspect of SSM theory best applied to a specific expert-recommended activity are discussed later in the section on analytic induction.

#### **Investigative Question 2.a: Expert-Recommended Activities Versus Boundary**

**Spanning Dimensions.** This question explored the relationship between the expert-recommended activities and boundary spanning theory, by asking whether the expert-recommended activities can be categorized under the four dimensions of boundary spanning activity? This study suggests that boundary spanning theory does correspond fairly well with the expert-recommended activities, but again, some disagreement occurred among the SMEs as to which dimension of boundary spanning corresponded best with each expert-recommended activity.

From the results, we see that the researcher supplied fully one-half of the *none* codes. These *none* responses represented thirty percent of the total responses, so boundary spanning behaviors represented seventy percent of the total responses. Upon removing the researcher's responses, the *none* responses represented only twenty percent of the total responses, and the boundary spanning behaviors increased correspondingly to eighty percent of the total responses. It seems clear that the SMEs, who had experience in the subject organization, saw more boundary spanning activity in these activities than did the researcher.

A second observation is the relatively high response rate for the *scouting* code (forty percent). Because scouting represents looking outside the organization for ideas and information, this response appears consistent with the experts' emphasis on the emerging importance of the commercial marketplace, and suggests that the experts appear to be

recommending that government contracting personnel concentrate more on scouting behaviors.

In summary, the theory of boundary spanning appears to correlate fairly well with the expert-recommended activities, with seventy percent of the available responses representing boundary spanning behaviors. The correlation becomes somewhat stronger when only the subject matter expert responses are considered; boundary spanning behaviors then represent eighty percent of the available responses. Differences existed over which aspect of boundary spanning theory best explained a given activity, but as explained in the section on analytic induction, these differences do not appear to affect the ability to conclude that boundary spanning theory seems useful in explaining some of the recommended changes to the government contracting career field.

**Investigative Question 2.b: Strategic Supply Management Activities Versus Boundary Spanning Dimensions.** This question explored the relationship between strategic supply management (SSM) theory and boundary spanning theory, by asking whether the activities characteristic of SSM theory can be categorized under the four dimensions of boundary spanning activity? The purpose of this investigative question was to determine whether obvious conflicts might exist between the theories of strategic supply management (SSM) and boundary spanning. If the two theories are consistent, that is, if the activities characteristic of SSM can be classified under one of the boundary spanning dimensions, then both theories could be applied to understand the changes occurring in the job of the government contract negotiator. This study suggests that boundary spanning theory does

correspond well with SSM theory, but again, some disagreement occurred among the SMEs as to which dimension of boundary spanning corresponded best with a given element of SSM theory.

The results for this question show that the code *none* was used only once, and that was by the researcher, for activity six, which is the development of strategic acquisition plans for major materials. For this investigative question, the results do not change significantly when only the SME's responses are analyzed. That the researcher and the SME agreed that at least one dimension of boundary spanning theory corresponded to each SSM activity (with the one exception noted), suggests that the two theories correspond very well.

Agreement also was fairly high at the specific level. Activity eight, participating in the corporate strategy process, was unanimously coded as *ambassador*. Four other activities received at least seventy-five percent agreement at the specific level. Three of these activities: activity one, early purchasing and supplier involvement; activity two, basic purchasing and procurement functions; and activity four, heavy use of partnering, all received at least seventy-five percent agreement that these activities represented the *task coordination* boundary spanning dimension. Activity seven, monitoring continuous improvement in the supply chain, received seventy-five percent agreement that this activity represented *scouting* behavior. This relatively high agreement at the specific level also argues for the high correspondence between the two theories.

In summary, the theories of strategic supply management and boundary spanning appear to correspond very well, even at the specific level. This high degree of

correspondence between the two theories suggests that they would both be useful in understanding the changes occurring in the job of the government contract negotiator.

**Investigative Question 3.a: Expert-Recommended Activities Versus Position**

**Description Standards.** This question was the first of three questions about the systemic motivation for government contract negotiators to adopt some of the changes being suggested. This question asked whether the government contract negotiator position description incorporated language suggesting contract negotiators should be performing the tasks suggested by the experts in government contracting.

While the majority of responses (sixty-five percent) were responses representing one of the expert recommended activities, the *none* response was a significant minority (thirty-five percent). Half of the *none* responses centered on position description standards that do not relate specifically to actual contracting work (e.g., duty nine which involves communication, interpersonal relationships, and quality management; duty ten, which is safeguarding of classified information, and duty eleven, which is special projects), so the number of *none* responses is less important when it is realized that these standards are not directly contracting related. Overall, the majority of the responses represent expert-recommended activities by nearly a two to one ratio, and equally important a significant portion of the *none* responses applied to non-contracting specific duties. This pattern of responses suggests that the government position description does generally allow for, or encourage, these expert-recommended activities.

### **Investigative Question 3.b: Boundary Spanning Dimensions Versus Position**

**Description Standards.** Investigative question 3.b. reviewed the contract negotiator position description against the four dimensions of boundary spanning activity, to determine whether boundary spanning theory could help explain the actual job requirements of the contract negotiator (the tasks the government actually explicitly desires its 1102-series contract negotiators to perform). Almost three quarters of the coding responses represented boundary spanning behaviors. Nearly one third of the standards received unanimous agreement that a boundary spanning behavior best represented that standard. Only two standards out of thirty received a majority of *none* responses: standard 5A, proposal review and evaluation; and standard 9D, a catch-all standard for personal responsibility, adaptability, and quality improvement program participation. Finally, removing the researcher's responses increased the percentage that boundary spanning behaviors represented of the total available responses. Based on these results, this research seemed to demonstrate that boundary spanning theory is helpful in understanding performance for most of the government contract position description standards.

### **Investigative Question 3.c: Strategic Supply Management Activities Versus**

**Position Description Standards.** Investigative question 3.c. reviewed the contract negotiator position description against strategic supply management theory, to determine whether this theory could help explain the actual job requirements of the contract negotiator (the tasks the government actually explicitly desires its 1102-series contract negotiators to perform).

With eighty-five percent of the total responses representing strategic supply management activities, this comparison seems to suggest the government position description does allow for, or encourage, the performance of these activities. A significant point, however, is that a large proportion of the responses—almost sixty percent—suggested that a given position description standard could be best categorized as *buying*, which is the code representing basic purchasing functions, as opposed to any of the strategic functions inherent in supply management theory. The code *none* received the next highest percentage response—fifteen percent—and only the code representing the development of long-term acquisition plans received as much as ten percent of the total responses. These results leave in doubt whether the position description encourages the full spectrum of supply management activities or merely basic purchasing activities. This could be an interesting avenue for future research.

**Investigative Question 4.a: Importance of Scanning to the Government**

**Contract Negotiator.** This question reviewed the data from the investigative questions that included a response for *scanning* or *scouting* to develop a preliminary understanding of how important scanning behavior appears to be to the government contract negotiator.

Research question two compared boundary spanning theory to the expert-recommended practices and strategic supply management. The responses for the two separate investigative questions that performed these two comparisons are the only two investigative questions where *scanning* or *scouting* responses received what could be considered a significant response rate: forty percent and twenty-five percent, respectively.

Certainly isolated activities were deemed to involve significant amounts of scanning behavior. For example, expert-recommended activity number one—acquiring knowledge of the market—received a unanimous response for *scouting* in investigative question 2.a., which compared the expert-recommended activities against the dimensions of boundary spanning theory. Also, strategic supply management activity number seven, involving continuous process improvement in the supply chain, received a high response rate for *scouting* in investigative question 2.b.

Generally, however, codes representing scanning behaviors received low response rates, especially when the comparisons were with the position description standards. The code for *scouting* behavior represented less than ten percent of the total responses in investigative question 3.b., and the code for *scanning* behavior likewise received less than ten percent of the total responses for investigative question 3.c. In investigative question 3.b., only standard 2A, which involved researching multiyear contracts, received a majority (seventy-five percent) of the responses for that standard. In investigative question 3.c., the *scanning* code never received more than one response for any standard. These results seem to imply that the position description does not encourage significant scanning behavior on the part of government contract negotiators, which is significant given the research about the importance of scanning to long-term success.

**General Conclusions.** Acquisition reform asks all agencies and departments of the federal government to improve how they acquire the goods and services necessary to perform their respective missions—to acquire them better, faster, and cheaper than in the past. A key component of this reform effort is a new emphasis on the commercial marketplace as a

source both of goods and services and of ideas for improving the federal acquisition process.

At least one senior government official has suggested the existence of the contracting career field could hinge on their adopting commercial practices. Based on this study, several general conclusions can be drawn about using commercial practices in the United States Air Force, and to some extent the Department of Defense and the federal government. While these conclusions are necessarily limited because they are based on a review of one organization, as discussed previously, some generalization can be expected based on the common acquisition regulations and policies governing the federal acquisition process.

This study suggests that government contracting personnel are using commercial practices, at least to some nontrivial extent. It also suggests that the motivational mechanism for adopting many of these commercial practices is also in place, in the form of the government contract negotiator position description. Why then are the experts concerned, to the point of threatening the demise of the career field?

This study outlines several reasons why experts and senior officials could have cause for concern about the presumed under-use of commercial practices in government contracting. First, this study presents strategic supply management (SSM) as the state-of-the-art for commercial purchasing theory, and while this study demonstrated that SSM was consistent with a government position description, it also found that most of the consistency was in the area of SSM that represents basic buying functions. That is, when asked to match each standard of the position description to the SSM activity that best characterizes that standard, a significant portion of the position description standards require basic purchasing

functions. To a much lesser extent, the other areas of SSM, the areas that make it strategic—like strategic planning, partnering, and searching the environment for new ideas—are not necessarily emphasized in the position description. Second, what should be done and what are done are not always the same. Just because a standard in the position description appears to cover a specific commercial practice, does not mean that practice will be done. An interesting area for future research would be to perform a time study of contract negotiators and compare the results against SSM theory, boundary spanning theory, and other commercial practices, to see how much time is devoted to these practices.

If motivation theory says anything, it says that what gets rewarded gets done, and the clearer and more achievable the rewards, the more likely the task will be performed. To encourage more use of commercial practices, at least to the extent that SSM characterizes commercial purchasing, the federal government should review its position description to determine if it is clearly requiring performance of SSM activities other than basic purchasing functions.

Another possible reason for the concern on the parts of the experts is that this study shows government contracting personnel do not spend much time scanning the external environment for new ideas. To be sure, negotiating with a contractor in that contractor's facility gives the government contract negotiator the opportunity possibly to absorb new ideas passively; however, little active searching out of new ideas seems to be required. This search for new ideas is important, because organizations that do not scan their environment do not do very well in the long run. Specific to the government contracting function, best commercial practices change over time and the government will have to keep up with the

changes, both to apply useful techniques and to understand those used by predominantly commercial companies supplying goods and services to the government.

None of this should be interpreted as meaning the government should jump on the commercial purchasing bandwagon, adopting every commercial theory and practice just because they come from the commercial marketplace. Nevertheless, the government does not appear to have in place a learning system, especially a generative learning system, to continue gathering new ideas and practices from the commercial world. Without such a system, the flow of new ideas into the government contracting world is likely to be more of a trickle, and the impression of government contracting personnel as nay-sayers and policemen is unlikely to change.

So what have we learned? It appears that strategic supply management and boundary spanning theory both offer insights that would help government contract negotiators adapt to the new emphasis on the commercial marketplace. The government should encourage its contracting personnel to investigate these theories, and to apply them to their daily activities. This encouragement can take the form of reviewing the contract negotiator position descriptions, which already are consistent with these theories, to ensure the standards specifically address aspects of these theories not currently emphasized. These under-emphasized aspects should include scanning, specifically, but also other areas other than basic purchasing functions. Perhaps the most critical area for emphasis, however, is with the lower-level supervisors. These supervisors should be encouraged to consider performance of those tasks already consistent with the position description as a required part of the contract

negotiator duties. This supervisory emphasis would help ensure commercial practices are actually put into practice daily.

## **Limitations**

This section discusses limitations of this study. Some of these limitations were inherent in the research design, for example, the limited generalizability of the case study methodology. Many of the limitations also suggest natural avenues for future research. General limitations are discussed first, followed by specific limitations revealed during the analytic induction process.

**General Limitations of the Research Design.** The research design itself presented several limitations, not all of which were a problem per se, but all of which impact the study in some significant way.

The first limitation involved the researcher himself. The researcher had eight years of experience contracting for the United States Air Force (USAF); however, none of this experience was at the subject organization, and none of it was in the primary areas of contracting in the subject organization: major weapon system procurement, and research and development. The results of the study showed that the researcher often did not, based on his experiences, believe a theory to apply to a given aspect of contracting in the subject organization, when the other subject matter experts, all of whom had recent experience in the subject organization, did believe the theory applied. Perhaps this is because the position description standards are somewhat vague, omitting specific details that might allow for

more accurate classification into some component of one of the theories. For whatever reason, however, experience in the subject organization appears to affect the coding results.

A second related limitation is the comparatively small number of subject matter experts (SMEs) used in this study. The researcher wanted to ensure continuous, ready access to the SMEs throughout the study, and limited the number accordingly. For preliminary research, this might not pose so great a threat; nevertheless, the opinions of a few do not necessarily carry so much weight as the opinions of many (in statistical terms, a smaller sample size is generally less desirable than a larger sample size), so the small number of SMEs could have affected the results of the study. The SMEs were also all fellow students in the researcher's graduate degree program; although the researcher can offer no specific examples, it is perhaps possible that the relatively constant contact between the researcher and the SMEs, and the shared courses, could have lead to some form of shared norms or understandings which could have affected how both the researcher and the SMEs coded their responses.

A third limitation is in the research design. A case study methodology contains inherent limitations, especially in the area of generalizing the results. As discussed in Chapter III, the case study design was deemed appropriate for the purposes of this study. However, although this study argues for some limited generalizability based on similar contracting laws and regulations throughout the USAF, the Department of Defense (DoD), and the federal government, the study's results are still applicable largely to contracting in the subject organization.

**Analytic Induction.** The process of analytic induction revealed two major limitations on the study's results. Each investigative question asked the panel of SMEs to compare two lists against each other. These lists represented either components of a theory, or activities or duties to be performed. For each investigative question, the SMEs agreed that the lists corresponded very well at what will be referred to as the general level, but they reached much less agreement at what will be referred to as the specific level. The general level refers to the level of the applicable theory, whereas the specific level refers to a specific aspect or element or activity within that theory. For example, in comparing boundary spanning dimensions to strategic supply management (SSM) activities, the code *none* was used only once. In other words, the SMEs agreed that each activity characteristic of SSM corresponded very well within one of the boundary spanning dimensions; however, for only one of the eight SSM activities did the SMEs agree unanimously on which specific boundary spanning dimension corresponded with the given SSM activity. While this lack of specific agreement does not hamper drawing useful tentative conclusions, it does limit the conclusions that can be drawn. Therefore, this section presents a summary of the main reasons why the SMEs coded some items differently. For the purposes of this exploratory research, the general-level agreement is sufficient.

Coding results differed at the specific level for two main reasons. First, the SMEs agreed that it was easy to categorize generally a standard or an activity as being explainable by a given theory (for example, it was easy to decide that a standard on the position description could be categorized under a dimension of boundary spanning); however, the SMEs also agreed it was much harder to categorize specifically, that is to assign an activity

or a standard to a specific component of the theory (for example, to decide the activity was only ambassadorial or only scouting). The nature of contracting work, the SMEs reported, is such that it is not particularly difficult to determine that a given task is explainable by the particular theory in question; but the SMEs found contracting work to be too multidimensional to categorize cleanly into one small component of a theory. In fact, the unifying theme emerging from the follow-up interviews was that choosing one specific dimension or activity to correspond with another activity was hard. One SME reported that he finally had to resort to simply choosing arbitrarily between what he perceived to be two equally good alternatives on several codings. Another wrote a feedback note on his survey to the same effect.

The second reason causing difficulties for the SMEs was their varying experience, even within the context of the subject organization, which caused them to interpret a given activity or standard in light of their experiences. The clearest example here is the difference between many of the researcher's codings and the other SMEs codings. The researcher had no experience in the subject organization, so several of his codes were *none*, signifying the theory did not apply, where all other SMEs believed the theory in question applied to the activity in question. This difference in coding apparently arose because of the difference in understanding of the activity that arose from the difference in experience.

### **Recommendations for Further Research**

Several avenues for further research suggest themselves, many of which flow from the limitations to this study, and others which flow from the study results.

First, this research concerned itself with validating whether several theories could be useful in understanding some of the changes occurring in the role of government contract negotiators. This study relied on a small group of subject matter experts (SMEs), with whom the researcher could interact freely, to determine preliminarily that these theories could be useful. An obvious limitation of this study, then, and one area for further research, is to expand the group of people involved in the study. This study did not seek statistical significance, but in the tradition of preliminary or exploratory research, sought to establish a reason for future research before significant resources were committed to that future research. The conclusions reached in this study, based on the small group of SMEs, suggest that future research is warranted. Therefore, the first suggestion for future research is to expand the case study at Wright-Patterson Air Force Base (AFB), perhaps through a survey tool, to gather a wider range of opinions and to generate a more rich understanding of how these theories apply to the changes occurring in contracting at Wright-Patterson (AFB).

A limitation of case study research is its relative inability to establish generalizability. The common foundation for contracting in the government, established by the *Federal Acquisition Regulation* and its supplemental regulations, argues that contracting should be similar from location to location in the Air Force, indeed to some extent across the federal government. This study cannot and does not claim more than the ability to suggest possible generalizability to other contracting organizations within Air Force Materiel Command (AFMC), the parent command over contracting at Wright-Patterson AFB. The second area for further research, then, is to explore the generalizability of this study by expanding the research to other AFMC organizations, such as Electronic Systems Center at Hanscom AFB

and Space and Missile Center at Los Angeles AFB. If the preliminary findings of this study do generalize at least to the AFMC level, future research could then focus on whether the results generalize to higher levels: other Air Force commands and other DoD organizations, and ultimately other federal government organizations.

While the SMEs in this study did agree that the theories reviewed did apply to the activities and standards that describe how contracting is—or is desired to be—done in the subject organization, they did not agree nearly so well as to the exact aspects of the theory that applied. They agreed, for example, that boundary spanning theory seemed to help explain the position description, but did not necessarily agree on which aspect. As discussed in Chapter IV, this disagreement arose largely because of the multidimensional nature of the contracting tasks, and because of the varied experience bases of the SMEs. Future research could attempt to categorize more specifically which aspects of the various theories apply to a given activity or standard. A specific area in which future research should focus is to investigate the relationship between the specific strategic supply management activities and the position description, because of the very high response rate for the code representing basic buying functions. Another avenue would be to explore whether other theories—or other descriptions of theories, such as other breakdowns of the dimensions of boundary spanning—could apply equally well, or better, than those reviewed in this research.

A final area for future research is to expand the focus of this study beyond government contract negotiators. Are other members of government system program offices (SPOs) performing boundary spanning behaviors? Is the government SPO structured to

maximize the application of strategic supply management? Do other members of the SPO, or government contracting personnel other than contract negotiators perform scanning or scouting behavior? If so, are the results better, worse, or just different from those that might be obtained if government contract negotiators were involved? These questions suggest additional directions future research might take.

## Conclusion

The underlying motivation for this research study has been that acquisition reform is changing government contract negotiators' focus to what was formerly the exclusively-commercial marketplace, both as a source of goods and services and as a source of ideas as to how better to conduct acquisitions for the government. Several theories, suggested both by experts in government contracting and by the academic literature, appeared to be potentially useful in understanding how this shift in focus affects the government contract negotiator. This research attempted a preliminary validation of this initial impression.

Specifically, this study performed a preliminary analysis of whether the theories—boundary spanning and strategic supply management—and lists of recommended activities were consistent with each other, and whether the position description for a journeyman government contract negotiator at Wright-Patterson Air Force Base, Ohio, seemed to provide the motivational mechanism for government contract negotiators to adopt or apply these theories in their day-to-day jobs.

Preliminary results of this study confirm tentatively that the theories are consistent both with each other and with the government contract negotiator position description. This

consistency suggests the theories could be useful in understanding the changes occurring in the role of the government contract negotiator. Future studies could expand on these preliminary results to confirm their validity and to investigate their wider applicability throughout the federal government. Confirmation of both the validity and the generalizability of the conclusions presented here could help government contract negotiators to perform their jobs better, faster, and cheaper, and ultimately to answer Steven Kelman's challenge to "justify their existence" (Kelman, 1996).

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*Vita*

Captain Bryan J. Hudgens graduated from the University of Pennsylvania in May, 1989 with a Bachelor of Arts Degree in Mathematics. He also received his commission in May 1989 through the R.O.T.C. cross-town program at St. Joseph's University.

Captain Hudgens' first assignment was as a contract management officer at 2d Contracting Squadron, Barksdale AFB, LA. After this tour, which culminated in his assignment as Chief, Construction Flight, he served two ninety-day tours as Chief of Contracting, 4409<sup>th</sup> Operational Support Group, and Contracting Officer, Joint Task Force—Southwest Asia, Riyadh, Kingdom of Saudi Arabia. Upon his return from Saudi Arabia, Captain Hudgens served a tour as contract administrator and administrative contracting officer in the Austin Residency of then-DCMAO San Antonio. Upon graduation, he will begin a tour in Foreign Military Sales on the F-16 program at Wright-Patterson AFB, OH.

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Prescribed by ANSI Std. Z39-18  
298-102

**AFIT RESEARCH ASSESSMENT**

The purpose of this questionnaire is to determine the potential for current and future applications of AFIT thesis research. **Please return completed questionnaire to: AIR FORCE INSTITUTE OF TECHNOLOGY/LAC, 2950 P STREET, WRIGHT-PATTERSON AFB OH 45433-7765.** Your response is **important**. Thank you.

1. Did this research contribute to a current research project?      a. Yes      b. No
  
2. Do you believe this research topic is significant enough that it would have been researched (or contracted) by your organization or another agency if AFIT had not researched it?  
a. Yes      b. No
  
3. Please estimate what this research would have cost in terms of manpower and dollars if it had been accomplished under contract or if it had been done in-house.

Man Years \_\_\_\_\_ \$ \_\_\_\_\_

4. Whether or not you were able to establish an equivalent value for this research (in Question 3), what is your estimate of its significance?

a. Highly Significant      b. Significant      c. Slightly Significant      d. Of No Significance

5. Comments (Please feel free to use a separate sheet for more detailed answers and include it with this form):

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Name and Grade

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Organization

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